



**RESIDENTIAL AREA CONCEPTUAL WORK PLAN
FOR THE
ENGINEERING EVALUATION AND COST
ANALYSIS
OF THE FORMER CELOTEX SITE
2800 South Sacramento Avenue
Chicago, Illinois 60623**

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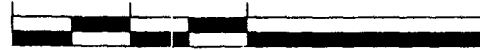
Parsons ES Project No. 730577

2000 N

5 E

LEGEND

200' 100' 0 200'



Approximate Scale in Feet



1" = 200'

N = Northing

E = Easting

8 = Map # **8**

680 N

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SECTION 1 INTRODUCTION

1.1 GENERAL

This Residential Area Conceptual Work Plan (RACWP) has been prepared by Parsons Engineering Science, Inc. (Parsons ES) and Cox Associates (Cox) on behalf of the Respondents, AlliedSignal, Inc. and The Celotex Corporation, for the site located at 2800 South Sacramento Avenue in Chicago, Illinois (hereinafter referred to as "the Site"). On 1 November 1996, the Respondents entered into an Administrative Order by Consent (AOC) with the United States Environmental Protection Agency (USEPA) Region V. The AOC stipulated that an Engineering Evaluation and Cost Analysis (EE/CA) study be performed for the Site. Furthermore, it required that the residential area risk assessment process be continued as part of the EE/CA, and specified that the extent of residential area removal actions (if required) be addressed and delineated.

On 4 March 1997, the Final EE/CA Work Plan submitted by Parsons ES on behalf of the Respondents (in accordance with the AOC) was approved by the USEPA Region V. This approval triggered the commencement of a strategic evaluation by the Respondents on the approach that would be taken to assess residential area impacts. The evaluation was designed to address several issues, including whether the concentrations of polynuclear aromatic hydrocarbons (PAHs) present within residential area surface soils represent any or all of the following:

1. Are at levels that exceed normal background for this urban area.
2. Can be attributed to former operations at the Site.
3. Constitute a threat to human health and the environment.
4. Require some form of removal or other remedial action to abate a defined threat, if an assessed cleanup goal is exceeded.

The schedule developed for the overall EE/CA study requires that a draft RACWP be prepared and submitted to the USEPA Region V for review and comment within 60

business days after approval of the Final EE/CA Work Plan. This RACWP is being submitted to fulfill this requirement.

1.2 WORK PLAN ORGANIZATION

This RACWP has been divided into seven sections. Section 1 presents this introduction. Section 2 summarizes the objectives and purpose of this document. A general discussion on the key findings and concepts of the deterministic and probabilistic risk assessment evaluation performed for the residential areas is presented in Section 3. Discussion of the conceptual strategy related to the evaluation of potentially impacted residential areas is presented in Section 4. Section 5 provides a general overview of the field sampling program and how it will be executed to acquire the necessary information. Discussion of prerequisite activities/tasks that must be performed prior to commencing field activities is also included in Section 5. A summary discussion is presented in Section 6. Section 7 is a list of key references consulted in preparation of the RACWP.

SECTION 2

RATIONALE BEHIND THE CONCEPTUAL WORK PLAN

2.1 BRIEF PROJECT OVERVIEW

Prior to formally entering into the AOC with the USEPA, the Respondents performed a surface soil sampling program in the residential community surrounding the Site. This sampling program provided analytical data for the primary Site chemicals of concern (carcinogenic PAHs) for a subset of residential properties within a 2,500-foot radius around the Site. These data were used in the development of a report entitled "*Deterministic and Probabilistic Calculations to Estimate Risk-Based Cleanup Goals for Soils at Residences Near the 2800 South Sacramento Site, Chicago, Illinois*," Alceon Corporation, October 25, 1996 (also referred to herein as the residential area risk assessment.) This risk assessment has been submitted to the USEPA Region V for review. The framework for the strategies that will be discussed in Section 4 of this RACWP was formulated in the residential area risk assessment and further elaborated on in Subsection 3.3 of the Final EE/CA Work Plan (January 1997), which was approved by the USEPA Region V on 4 March 1997.

Since the AOC was entered into on 1 November 1997, the Respondents have prepared and received USEPA approval on the Support Sampling Plan (SSP) for the main site. The SSP consists of three documents that were the prerequisite deliverables necessary to the execution of the main site field investigation program. This sampling program commenced in April 1997 and is scheduled for completion in May 1997.

All activities associated with both the main site investigation and the residential area assessment are considered part of the overall EE/CA process. However, as required by AOC, the residential area remedial evaluation process will be addressed ahead of the activities related to the main site investigation. As stated in the Final EE/CA Work Plan, the risk scenarios for the residential area will differ from those developed for the main site because the intended end use of the main site will be commercial or industrial.

2.2 OBJECTIVES OF THE RESIDENTIAL AREA CONCEPTUAL WORK PLAN

It is the intent of the Respondents to base the remedial evaluation approach for the residential area surrounding the Site on the strategies, concepts, and findings of the residential area risk assessment. The residential community is situated in a mixed urban, commercial, and industrial area in which the presence of PAHs is ubiquitous. As a result, several challenges have to be surmounted during the process of assessing the potential impact of former Site operations on the residential properties in this area. These challenges include being able to accurately define the boundaries of the residential community surrounding the Site that were impacted by former site operations (the foreground areas) and accurately quantify the levels/distributions of PAHs in background areas (areas not impacted by Site operations). To provide answers to these and other issues, the residential area risk assessment was designed to include both routine deterministic methodologies and the more robust probabilistic methodologies. Both assessments are presented in the residential area risk assessment.

The application of probabilistic methodologies in the risk assessment arena has become more widely used in the environmental field in recent years and is recognized as a means of more realistically describing risk. Because of the setting/location of the Site and the surrounding residential community, it is the intent of the Respondents to emphasize the probabilistic methodologies (and the related statistical strategies) during the assessment of residential impacts associated with the PAH compounds of concern (although aspects of the deterministic assessment will also be incorporated). To this end, the primary objectives of this RACWP are as follows:

- Present the rationale that was used in developing the remedial evaluation strategies.
- Demonstrate how these strategies can be used to provide the information needed to assess and quantify the extent (if any) of residential area removal/remedial actions.
- Provide a step-wise progression of activities that will be followed to implement the various statistical strategies.

The process of performing removal actions within a residential community is always extremely disruptive to the residents living within the community and to those persons who traverse the community for business and other purposes. Routine issues such as attending school and receiving mail are affected because remedial actions on residential property sometimes require residents to leave their homes and/or communities for temporary relocation elsewhere for a portion of or for the full duration of the remedial action. Therefore, these actions should not be undertaken unless they are deemed to be absolutely necessary to protecting human health and the environment.

The primary rationale for utilizing the approach outlined in this RACWP is to provide the greatest degree of definition and understanding to the issue of PAH-distribution in the residential community surrounding the Site, so that more informed, health-protective decisions can be made relative to residential remedial measures. The strategies presented herein have been formulated, in part, based on the extent to which the analytical data related to PAH levels in a potentially impacted residential area are truly representative of the actual condition. The statistical assessment tools are intended to help ensure that any areas of significant impact are not overlooked in the evaluation process while any areas of lesser or negligible impact are not mistakenly targeted for remedial measures and, therefore, those residents unjustifiably exposed to the disruption of the remedial process.

SECTION 3

SUMMARY OF THE FINDINGS AND CONCEPTS OF THE DETERMINISTIC AND PROBABILISTIC RISK ASSESSMENT

3.1 OVERVIEW

As stated previously in Section 2, the residential area risk assessment was developed using both deterministic and probabilistic methodologies to assess risk and calculate remedial goals. This section provides a general summary of the various methodologies and the differing remedial cleanup goals that were generated as part of that assessment. It provides discussion on the differences between the output from the various methodologies as identified in the risk assessment and insight into the advantages of using probabilistic methodologies.

3.2 DEVELOPMENT OF CLEANUP GOAL ALTERNATIVES

Former operations at the Site during the approximate period of 1911 to 1989 resulted in the release of PAHs. These PAH compounds apparently migrated beyond the Site boundaries and are considered to be present in surface soils in some residential areas surrounding the Site. The purpose of this section is to describe the basis for and the general characteristics of the remedial goals that were generated from the residential area risk assessment. The two main remedial goals that have emerged as the most relevant candidates to assess the extent of removal/remedial actions (if any) are based on remediating either to background concentrations or to risk-based levels.

Polynuclear aromatic hydrocarbon compounds fall into two primary categories, carcinogenic and non-carcinogenic. It was demonstrated early in this project that the carcinogenic PAHs are approximately two orders of magnitude (a factor of ~ 100) more important than are the non-carcinogenic PAHs when assessing contaminant risk and remedial issues for these residential areas (E&E, 1995). As such, all residential impacts relative to the Site and the associated remedial options/goals will focus only on the

carcinogenic PAHs, and will be expressed as an equivalent concentration of benzo(a)pyrene (denoted BaPeq).

3.3 GENERAL REMEDIAL OPTIONS

Remedial options for contaminated environmental media are usually assessed based on one of the three premises shown below:

- Remedial Option 1 - The affected media are remediated to background concentrations.
- Remedial Option 2 - The affected media are remediated to risk-based concentration goals (RBCGs) that are protective of human health and the environment.
- Remedial Option 3 - Other activities are performed (e.g., institutional controls such as fencing/capping or use of intrinsic remediation) to mitigate any unacceptable risk.

Any combination of these three remedial options may be used to develop an acceptable remedial strategy. However, in support of issues relative to this RACWP, the application of remedial options 1 and 2 to the residential area remedial evaluation process are discussed in the following subsections.

3.4 ASSESSMENT OF BACKGROUND REMEDIAL GOALS

To pursue a remedial strategy that uses background as a criterion it is necessary to define the extent of off-site impacts that can be attributed to former site operations. As part of the residential area risk assessment, a study of the analytical data was performed to delineate the distance at which the BaPeq levels in surface soils became statistically indistinguishable relative to the distance from the Site. This study was presented as an appendix to the residential area risk assessment (Cox, 1996). It defined the limits of Site-related contamination in the residential neighborhoods and concluded that a reasonable boundary for the outer limit of the area of impact could be set at a radius of 1,100 feet for the northwest and southwest quadrants, and at a radius of 1,300 feet for the northeast quadrant.

To apply a "background remedial goal" to the residential remediation process, the residential properties within the impacted area (also referred to as the "foreground") would have to be remediated until the resulting foreground concentrations resembled background concentrations. For example, some type of remediation might be conducted in the impacted area until the distribution of concentrations in foreground surface soil areas is equivalent to the distribution of PAH (or BaPeq) concentrations in background areas.

3.5 ASSESSMENT OF RISK-BASED REMEDIAL GOALS

The remediation of an impacted area until a RBCG is met is another remedial strategy that was developed as part of the residential area risk assessment. In recent years, the concept of remediating to a RBCG has gained substantial acceptance by regulators and the general public alike because it can be shown that the RBCG is protective of human health and the environment. RBCGs are developed based on the type of receptor (plant, animal, human, etc.) and are designed to be protective of all receptors deemed to be part of the area of impact, for various exposure scenarios. In the case of the residential areas adjacent to the Site, only human receptors were determined to be relevant, since the area is urban in nature with no significant habitat for ecological receptors.

Deterministic and probabilistic calculations to estimate RBCGs for soils at residences near the Site were developed and presented in the residential area risk assessment. Deterministic risk assessment methods are the traditional approach used to calculate risk and back-calculate RBCGs. In the deterministic paradigm, single point estimates (including many values ≥ 90 th or ≥ 95 th percentile of the range) are selected for each exposure variable, such as soil ingestion rate, exposure frequency, absorption, body weight, etc. As stated in the residential area risk assessment, a major drawback of this approach is that it does not include either (1) the variability found in nature, physiology, and behavior, or (2) the uncertainty inherent in our scientific knowledge.

An alternative to deriving a single point estimate RBCG is to use probabilistic techniques such as Monte Carlo analysis, which incorporates distributions for input

variables and generates an output that is in the form of a distribution. The distribution provides a full characterization of risks or cleanup goals at corresponding percentiles. This RBCG distribution is considerably more useful and informative than a single value RBCG. Generally, the use of a probabilistic approach, rather than the traditional point estimate approach, is recognized within the risk assessment community as being more accurate and realistic.

The probabilistic assessment of RBCGs was incorporated into the residential area risk assessment, and the assumptions and calculations used to develop remedial goals for the residential areas near the Site are discussed therein. The residential area risk assessment considered exposures through ingestion and dermal contact, and provided the rationale used to develop levels of BaPeq which, when left in residential soils, would not present an unacceptable risk to human receptors through these routes.

3.5.1 RBCGs Based on Deterministic Methods

In the deterministic paradigm, an acceptable BaPeq concentration in surface soil is developed by using algebra to rearrange the risk equation to solve for the soil concentration term. An acceptable target risk is substituted and an acceptable soil concentration is calculated (this is called a "backward" calculation). Alternatively, the risk equation can be left in its original form and soil concentrations can be substituted iteratively until the acceptable target risk is reached (this is called an "iterative forward" calculation). Therefore, in the deterministic paradigm, the same soil concentration is reached using either the backward calculation or the iterative forward calculation at a given level of risk.

In the residential area risk assessment, discussion was provided on the RCBGs that were calculated based on deterministic methodologies and the various associated assumptions. Using these techniques and stipulating an acceptable target risk of 1×10^{-4} , the RBCGs calculated for BaPeq in residential area surface soil are as follows:

The RBCG using USEPA Region V Assumptions = 1.93 mg/kg BaPeq.

The RBCG using the Respondents' Assumptions = 27.5 mg/kg BaPeq.

Both sets of calculations that generated the above-mentioned values are based on the reasonable maximum exposure (RME) to an individual and use the same toxic potencies listed in the USEPA's Integrated Risk Information System (IRIS) database; however, the resulting allowable BaPeqs are not the same because of differing exposure assumptions. While the 1.93 mg/kg BaPeq is the more conservative value, it is based on USEPA's generic, non-specific default exposure factors. The 27.5 mg/kg BaPeq value is based on assumptions considered more directly applicable to an urban residential scenario (such as that which exists in the community that surrounds the Site.) Both values are considered protective of human health and the environment; therefore, the 27.5 mg/kg BaPeq is the value that is referenced throughout this RACWP.

The simplistic traditional use of deterministically-derived RBCGs in remedial strategies is to remediate every area known to exceed the bright line value (the RBCG point value). For example, the existing data set for the residential areas could be reviewed, and all areas found to exceed the selected bright line value would be excavated to below that value.

3.5.2 RBCGs Based on Probabilistic Methods

Unlike the deterministic methods described above, RBCGs developed using probabilistic methods are given as a range of allowable concentrations rather than a single bright-line value. Also unlike deterministic methods, the backward calculation approach does not work for probabilistic methods. Only the iterative forward calculation approach is appropriate for the probabilistic case due to the use of random variables in the probabilistic approach.

In practice, a range of allowable concentrations is developed by identifying an allowable distribution of risk and iteratively substituting soil concentration ranges into the forward risk calculation until that acceptable risk range (or a value slightly smaller) is reached. This is generally accomplished by using a computer program designed for the task (e.g., Crystal Ball[®], Decisioneering, 1992).

For residential areas near the Site, the acceptability or unacceptability of a distribution of risk is based on two constraints relative to the distribution:

- For a first constraint, the target cancer risk of 1 in 10,000 (1×10^{-4}) is associated with the 95th population percentile of the risk distribution. In other words, for a distribution of risk to be acceptable, its 95th population percentile must be less than 1×10^{-4} . In USEPA's terminology, this constraint takes the place of the RME.
- For a second constraint, the target cancer risk of 1 in 100,000 (1×10^{-5}) is associated with the median risk. In other words, for a distribution of risk to be acceptable, its 50th population percentile (median) must be less than 1×10^{-5} . In USEPA's terminology, this constraint takes the place of the Central Tendency Exposure (CT exposure).

An acceptable distribution of risk that meets both of these two constraints and, therefore, defines the distribution of total risk for both the ingestion and the dermal pathways, occurs when BaPeq concentrations follow the distribution shown below. Since this distribution of BaPeq concentrations causes a distribution of risk that simultaneously meets (i.e., is equal to or less than) the two constraints defining the maximum acceptable risk, it is, by definition, the cleanup target range for BaPeq concentrations in soils.

<u>Percentile</u>		<u>mg/kg BaPeq</u>
Minimum	=	0
10th	≤	6.4
20th	≤	9.5
30th	≤	12.8
40th	≤	16.4
50th	≤	20.8
60th	≤	26.1
70th	≤	33.3
80th	≤	43.6
90th	≤	58.2
95th	≤	72.7
Maximum	≤	99.9

This lognormal distribution of soil concentrations truncated at 100 mg/kg BaPeq (shown previously) has an arithmetic mean equal to 27.1 mg/kg BaPeq. In a statistical sense, this

probabilistic RBCG dominates the distribution of background concentrations discussed earlier. In a colloquial sense, this probabilistic RBCG "is larger than" the distribution of background concentrations.

A simulation with 20,000 iterations and the report from Crystal Ball[®] verified that the Incremental Lifetime Cancer Risk (ILCR) attributable to this soil concentration distribution meets the two constraints that define the acceptability of a distribution of total risk (the sum of risk from the ingestion and dermal pathways). The resulting risk distribution is as follows:

Population Percentile		ILCR	
10th	=	$1 \times 10^{-6.28}$	
20th	=	$1 \times 10^{-5.88}$	
30th	=	$1 \times 10^{-5.61}$	
40th	=	$1 \times 10^{-5.39}$	
50th	=	$1 \times 10^{-5.19}$	$\leq 1 \times 10^{-5}$
60th	=	$1 \times 10^{-5.00}$	
70th	=	$1 \times 10^{-4.80}$	
80th	=	$1 \times 10^{-4.58}$	
90th	=	$1 \times 10^{-4.30}$	
95th	=	$1 \times 10^{-4.08}$	$\leq 1 \times 10^{-4}$

Application of Remedial Option 2 (Subsection 3.3) using probabilistic RBCGs would require that residential properties within the impacted area be remediated until the resulting concentrations resemble the acceptable distribution of concentrations. For example, some type of remediation could be conducted in the impacted area (e.g., excavation of contaminated surface soils) until the distribution of concentrations in the impacted area is equal to or is dominated by the acceptable distribution of concentrations.

It is to be noted that the Respondents' deterministically derived RBCG of 27.5 mg/kg BaPeq falls around the mid-range level of the probabilistically generated RBCG distribution.

3.6 APPLICATION OF FINDINGS

The remainder of this RACWP will outline the manner in which the findings and concepts discussed previously were implemented to provide an approach that minimizes errors when assessing the extent of contamination while ensuring that the risks to human health and the environment are accurately and appropriately defined.

The results of the deterministic and probabilistic assessments that were performed for the residential area risk assessment process suggest that there are definite advantages to combining both approaches when assessing a contaminant scenario related to an urban residential community. Furthermore, several factors dictate that an overly conservative approach, resulting in remediation beyond that which is absolutely necessary to prevent human health risks, is not in the interest of any of the affected constituencies, i.e., the public, USEPA, or the Respondents. In the following section (Section 4) it will be shown how deterministic and probabilistic RBCGs (and other statistical systems) were used to refine the area of impact by identifying the area(s) of greatest potential risk. PAH data and/or BaPeq levels will be assessed and adaptive partitioning (refer to Subsection 4.1.2) will be used to identify the area(s) where there could be an exceedance of RBCGs and, therefore, a potential health threat.

SECTION 4 THE CONCEPTUAL STRATEGY

4.1 STATISTICAL STRATEGY FOR SETTING INVESTIGATION AND REMEDIATION PRIORITIES

4.1.1 Goals of the Analysis

This section recommends a statistical strategy for using the soil sample data already collected to decide which locations (residences) to take additional soil samples from, how many samples to take at each location, when to stop sampling, and which locations to remediate, based on the results of the samples. The main goals of the recommended strategy are as follows:

- **Efficiency:** For any given expenditure of resources, remove as much as possible of the residential contamination created by the Site.
- **Equity:** Give all neighbors with the same property characteristics the same probability of being sampled, and, if necessary, conduct a remedial action on their property.
- **Fairness:** Minimize the errors and unnecessary expenditure of resources associated with the remediation of areas that reflect background concentration.

It is impossible to achieve these goals with certainty, given the many uncertainties inherent in the data. However, it is possible to develop an approach that comes as close as possible to achieving these goals. The discussions in this section are designed to address these considerations.

4.1.2 Statistical Challenges: Four Key Uncertainties

The challenge of how best to use sample data to make sound risk management decisions is especially difficult in this case because of the following factors:

1. The frequency distribution of soil concentrations among background locations (defined as locations not detectably affected by the 2800 South Sacramento Avenue property) overlaps with the frequency distribution of soil

concentrations among "foreground" locations (those where soil concentrations have been detectably increased by releases from the 2800 South Sacramento Avenue property). Thus, some background locations have higher measured soil concentrations than some of the locations affected by the property.

2. It is impossible to determine with certainty or with high confidence whether (or by how much) any specific individual residential property has been contaminated by the 2800 South Sacramento Avenue site—or precisely what proportion of its contamination originated at that site.
3. Soil concentrations are highly variable, even on the same residential property. This makes it impractical to determine which locations have the highest mean soil concentrations. Collecting soil samples at two different locations may suggest that one is more contaminated than the other, but collecting a second set of samples from the same two properties might well reverse their ranking.
4. The spatial distribution of soil contamination concentrations is unknown. Although the soil samples collected so far reveal something about the frequency distribution of concentrations (e.g., that it is approximately log-normal among background locations), the relation between spatial locations and soil concentrations is very uncertain.

Soil concentrations do tend to increase near the South Sacramento Avenue property (especially within about 800 feet of it), and they tend to be greatest to the northeast of this property, in the predominant wind direction. This finding is shown in more detail in Table 4.1, which was created by applying an adaptive partitioning technique (Biggs et al., 1991) to the sample data already collected. The algorithm automatically partitions the data on soil concentrations and polar coordinates of sampled locations into five angular sectors, three of which lie in the northeast quadrant at increasing distances from the fenced property line. The partitioning is carried out in such a way that the resulting sectors (corresponding to rows in Table 4.1) contain significantly different frequency distributions of sampled soil concentrations.

Table 4.1 shows that only one of the five sectors has a mean concentration in excess of the 27.5 parts per million (ppm) BaPeq previously recommended by Alceon Corporation as a health-protective level. This is Sector 1, which lies immediately to the northeast of the site, from the fence line out to about 765 feet. Table 4.2 shows the sample data for all points in the northeast quadrant within 765 feet (to the nearest foot)

TABLE 4.1
A PARTITIONING OF THE SAMPLE SOIL CONCENTRATION DATA
INTO STATISTICALLY SIGNIFICANTLY DIFFERENT SECTORS

RESIDENTIAL AREA CONCEPTUAL WORK PLAN
2800 SOUTH SACRAMENTO AVENUE

Sector	Angle	Distance	Mean Conc.	Standard Deviation	N
1	48 - 89	< 765 feet	36.6	15.0	10
2	48 - 89	765 - 1,193	16.8	6.5	12
3	48 - 89	> 1,193	4.9	5.1	21
4	89 - 185		4.7	5.8	56
5	185 - 354		10.3	10.4	26
Inside fence			664.0	2,477.0	24

TABLE 4.2
SAMPLE DATA FOR POINTS IN THE NORTHEAST QUADRANT
INSIDE 765 FEET

RESIDENTIAL AREA CONCEPTUAL WORK PLAN
2800 SOUTH SACRAMENTO AVENUE

Case No.	MAPID	EASTDIST	NORTHDIS	DISTANCE	BAPEQ
1	ID212	112.673	318.913	338.232	61.040
2	ID213	111.673	455.913	469.391	43.347
3	ID1	111.673	455.913	469.391	45.290
4	ID2	332.673	368.913	496.758	17.920
5	ID220	332.673	368.913	496.758	26.044
6	ID219	347.673	478.913	591.806	17.094
7	ID242	97.673	583.913	592.026	25.176
8	ID214	97.673	583.913	592.026	52.890
9	ID215	97.673	628.913	636.452	32.992
10	ID7	332.673	688.913	765.031	10.922
11	ID218	332.673	638.913	765.031	43.867
12	ID8	332.673	688.913	765.031	11.743

of the estimated center of the fenced site. It contains seven distinct locations that have already been sampled (more than once for some of the locations). The mean of the sampled values is 36.6 ppm BaPeq, slightly above the 27.5 ppm recommended as a health-protective level.

However, the standard deviation of the sample values is close to 15, indicating that the individual values vary widely about the mean. Indeed, half of the sampled values fall below the 27.5 ppm level, suggesting that, if all locations in the sector had been remediated based on the mean concentration, then about half of them would not have required remediation in order to achieve the health-protective level. One goal of statistical sampling is to avoid this type of error (i.e., remediating locations that are already below the health-protective concentration). Another key goal is to avoid the reverse error (i.e., mistakenly failing to identify a property that must be remediated to bring its concentration below 27.5 ppm). Our proposed sampling scheme must address both types of errors.

Table 4.2 vividly illustrates the extent of concentration sampling variability within the same location. For example, the last three rows (cases 10 through 12) have the same spatial coordinates, showing that they were taken from the same physical property. Yet in the three samples one value was about four times greater than the other two. This suggests that a confident decision about the true mean concentration at a residential property will often require more than three samples.

Spatial statistical analysis shows that concentrations of BaPeq equivalent contaminants in soil are positively associated with each other over a distance on the order of perhaps 100 feet, with the concentration at the nearest sampled neighbor of a location being a much better predictor of the concentration at that location than are the concentrations at more distant locations. The numerical correlations between BaPeq equivalent concentrations at different distances are as shown in the following table.

The linear ("Pearson's product-moment) correlation and ordinal (Spearman's) correlations between concentrations at properties located at different distances from each other show that there is a strong correlation within the first 50 feet, and again between 100 and 150 feet, tapering off to insignificance beyond 400 feet. The concentrations between 50 and 100 feet away from a location are less useful predictors of its concentration than are concentrations between 100 and 150 feet away, suggesting that the processes that created BaPeq-equivalent soil contamination may have at least two different scales of variation, one producing significant spatial correlations over a distance measured in tens of feet and the other producing significant spatial correlations over distances measured in hundreds of feet. Different mechanisms may explain these two different scales of variation in soil contamination levels. Which one(s) reflect site-related deposition is unknown.

<u>Distance (in feet)</u>	<u>Linear Correlation</u>	<u>Spearman's Correlation</u>
0-50	0.88	0.89
50-100	0.38	0.60
100-150	0.86	0.87
150-200	0.62	0.71
200-250	0.57	0.74
250-300	0.56	0.66
300-400	0.30	0.44
400-600	0.14	0.36

In summary, it appears that concentrations at locations within about 100-150 feet of a point are most likely to be useful in predicting its concentration. (Indeed, in stepwise multiple linear regression with backward elimination of insignificant independent variables, only concentrations between 100 and 150 feet remain in the regression model as useful predictors of the concentration at a location. Even locations within 50 feet do not add significant additional information. This pattern raises the

possibility that site-related deposition is not the primary explanation for the observed pattern of spatial variations in concentrations.) When the adaptive sampling plan described below specifies that residential properties surrounding a property with high sampled concentrations should also be sampled, the recommended linear distance at which the new samples are most likely to find high concentrations is about 125 feet, plus or minus 25 feet.

Given the uncertainties described above, the most constructive approach to achieving the goals of the analysis requires using additional sample information as it becomes available to improve understanding of the spatial pattern of contamination. As more information is gained about the spatial distribution of contamination, it can and should be used to help the remaining investigation and remediation efforts to focus in on the areas that are most likely to contain high concentrations due to the site. This is the essence of the proposed adaptive sampling approach.

4.2 AN ADAPTIVE SPATIAL SAMPLING PLAN

The adaptive spatial sampling plan described below is based on the recent technique of "adaptive cluster sampling" (Thompson and Seber, 1996, Chapter 6), which has proved useful in environmental sampling problems where (1) the true spatial distribution being sampled is unknown; and (2) it is desired to find relatively high values (corresponding to relatively contaminated locations, in our application) as well as to estimate the mean concentration among the not-yet sampled locations. The main principles of the method are as follows:

- High concentrations are most likely to be found in the neighborhood of other high concentrations already discovered. (As described above, searching at a distance of about 125 feet around high-concentration locations is estimated to be most likely to identify additional high-concentration locations.)
- Initial random sampling followed by exploration (i.e., further sampling) in the vicinity of the highest concentrations yet discovered provides an effective way to focus efforts as statistical information is gained.

The original adaptive cluster sampling algorithm of Thompson and Seber incorporates these principles by starting with a random sample of N locations (or "seeds"), where N is chosen to be large enough to provide a high probability of detecting any large "hot spots." As the algorithm proceeds, a list of the K locations with the highest values yet observed is maintained. At each round, the locations adjacent to the current top K locations are sampled, and if any of their values are higher than the previously observed K -th highest value, then the new locations are inserted in the appropriate positions on the top- K list. The procedure terminates when no new locations are added to the top- K list.

For this project, we have modified the algorithm to reflect practical constraints. For example, analytic laboratories analyze soil samples in batches, enabling them to maximize uniformity and data quality. Moreover, the adaptive cluster sampling procedure assumes that the true value at each location is determined when the location is sampled, while the high sampling variability illustrated in Table 4.2 shows that the true average concentration may never be discovered. Therefore, it is desirable to take multiple samples at each location, to better estimate the true mean concentration and thereby reduce the probability of a classification error. By sampling each location repeatedly prior to remediation, one can reduce the probabilities of both types of errors: incorrectly deciding that the location needs to be remediated to achieve a mean concentration below 27.5 ppm, or incorrectly deciding that it does not need to be remediated to achieve this level.

Based on these considerations, the adaptive cluster sampling approach may be extended by adding two additional parameters: S = number of samples taken at a sample location; and T = decision threshold such that if the sample mean of a location based on S samples exceeds T , then the location is remediated, and otherwise it is not. The procedure is still adaptive, in that the locations around the K highest concentrations observed so far are examined next, until none of the most recently

examined locations displaces the K highest values already observed. However, the decision on whether to clean a location is based on the outcome of the S samples (i.e., does the sample mean exceed T?).

Next, it is necessary to choose values for the four decision parameters (N, K, S, T) so as to optimize the performance of the resulting adaptive sampling procedure, given the goals of the analysis and the partial information currently available from previously sampled locations. To do so, it is necessary to be able to estimate the performance associated with any combination of parameter values, and then to choose the combination giving the best performance.

The performance of any combination of parameter values may be estimated by the techniques of multiple imputation and cross-validation. Multiple imputation is one of several closely interrelated computationally-intensive techniques used in modern statistics when the correct statistical model (e.g., the true spatial pattern of associations among concentrations) is unknown and must be estimated from data (Urban-Hjorth, 1994). The idea is as follows. Although the frequency distribution and mean concentration at each location are unknown, they may be estimated from the available sample information by assigning (imputing) to each location, several values randomly sampled from nearby locations. (For example, sampled values from a location's five nearest neighbors may be used, or values from other locations in the same angular sector in Table 4.1 as the location may be used.) Once values have been imputed to all locations, the performance metrics may be evaluated by treating the imputed values as if they were the true values. For example, the number of locations "falsely" remediated (those that the adaptive sampling algorithm specifies should be remediated based on S sample values drawn from the location, even though the "true" [imputed] value is less than 27.5 ppm) can be quantified, as can the number of locations falsely not remediated. Repeating the entire process many times (i.e., for multiple imputations) builds up a probability distribution for such quantities, and also for any

quantities derived from them, such as the total error rate (the sum of the two error rates). Even though the correct imputation for each location is unknown, the *probability distributions* for values of performance metrics derived from the multiple imputations will (under quite general conditions) have many desirable statistical properties, such as providing unbiased estimates of the true values.

For our purposes, the importance of multiple imputation is that it provides a way to estimate the expected performance of any specified combination of parameter values for any performance metric that could be computed if the true concentrations at each location were known. Searching among different combinations of parameter values then allows the best combinations to be identified. Table 4.3 shows the results of searching for combinations to minimize the expected total error (locations mistakenly remediated + locations mistakenly not remediated). The ten combinations shown are those that evaluated the best among the different parameter combinations tried.

The first column of the Table 4.3, Error Rank, provides the rank-order of each combination on the criterion of minimizing total errors. The next column provides the rank of the same combination of parameters with respect to expected total cost if that combination is used in the adaptive sampling procedure. The next four columns specify the parameter values (N, S, K, T) for which these evaluations are made. (T is expressed for log-concentrations.) Finally, the last two columns give the expected numbers of houses sampled and remediated, for each parameter combination. These numbers are based on using the five nearest sampled locations to impute values for each location, with 20 imputations being used to obtain estimated average error rates and costs. The cost numbers for this calculation assumed \$1,000 to sample a location, and \$50,000 to remediate a location. For contrast, Table 4.4 shows the 10 combinations that ranked worst on the total error criterion, among the combinations examined.

TABLE 4.3
BEST TEN COMBINATIONS OF ADAPTIVE SAMPLING PARAMETER VALUES, ESTIMATED VIA MULTIPLE IMPUTATION
FOR MINIMIZING TOTAL ERRORS

RESIDENTIAL AREA CONCEPTUAL WORK PLAN
2800 SOUTH SACRAMENTO AVENUE

Error Rank	Cost Rank	N = Seed Sample Number	S = Property Sample Number	K = Top Candidates Kept	T = Log Cleanup Trigger For Sample Mean	Expected Houses Sampled	Expected Houses Cleaned
1	3	5	8	1	3.5	84.333	2.286
2	6	10	8	6	3.5	109.286	1.905
3	11	20	8	3	3.5	104.238	2.190
4	16	10	8	10	3.5	124.762	2.476
5	7	15	8	1	3.5	93.667	2.238
6	10	5	8	6	3.5	106.476	2.095
7	17	20	8	10	3.5	131.000	2.381
8	15	5	8	10	3.5	125.429	2.286
9	1	10	8	1	3.5	88.905	1.762
10	2	5	3	1	3.5	85.286	2.238
11	14	20	8	6	3.5	115.810	2.286

TABLE 4.4
WORST TEN COMBINATIONS OF ADAPTIVE SAMPLING PARAMETER VALUES, ESTIMATED
VIA MULTIPLE IMPUTATION, FOR MINIMIZING TOTAL ERRORS

RESIDENTIAL AREA CONCEPTUAL WORK PLAN
2800 SOUTH SACRAMENTO AVENUE

Error Rank	Cost Rank	N = Seed Sample Number	S = Property Sample Number	K = Top Candidates Kept	T = Log Cleanup Trigger For Sample Mean	Expected Houses Sampled	Expected Houses Cleaned
231	3	5	1	10	1.0	135.905	76.714
232	6	10	8	10	1.0	127.286	78.952
233	11	20	3	10	1.0	130.048	78.952
234	16	10	1	10	1.5	144.952	77.667
235	7	15	8	10	1.0	127.857	79.619
236	10	5	3	10	1.0	132.429	81.143
237	17	20	1	10	1.0	140.333	80.333
238	15	5	8	10	1.0	130.619	82.190
239	1	10	3	10	1.0	135.048	83.476
240	2	5	1	10	1.0	145.714	84.810
	14	20					

A striking feature of tables 4.3 and 4.4 is that the parameter combinations which most effectively home-in on the final set of locations, reducing the number of houses investigated, also tend to most effectively reduce total errors. Six of the top ten combinations, as ranked in terms of minimizing errors, are also in the top ten ranked in terms of minimizing costs (a proxy for number of houses disturbed). Nearly all of the top-ranking parameter combinations have a high S value ($S = 8$, the highest value yet tested) and a high T value, with the pattern being reversed in low-ranking combinations.

A similar analysis has been conducted in which a larger range of possible sampling plans was examined (with S ranging up to 30) specifically for the North East quadrant. In this run, the unknown concentration distribution at each location was imputed from its angular sector and distance (less than 765 feet or greater than 765 feet), as shown in Table 4.1, based on all sampled values in the same cell of Table 4.1. The main result is the same as in Table 4.3: effective sampling plans tend to reduce both types of errors by focusing search effort where it is most likely to be useful.

In summary, an effective adaptive spatial sampling plan, based on the results shown in Table 4.3, is the plan with parameters $N = 5$, $S = 8$, $K = 1$, $T = 3.5$. (If sampling is confined to the northeast quadrant, as we recommend, then a modified plan, with $N = 0$, $S = 8$, $K = 1$, and $T = 3.9$, is preferable for minimizing expected error rate.) According to this specification, the plan proceeds as follows:

1. Select the area to be sampled and potentially remediated. Based on the results in Table 4.1, we recommend that activities be limited to Sector 1 (i.e., north-northeast of the site). However, this summary is based on the assumption that the whole area inside 1,500 feet from the center of the site is to be considered. Results for the northeast quadrant alone are given in parentheses.
2. Take $N = 5$ additional random soil samples from properties not previously sampled. ($N = 0$ is also appropriate for sampling the northeast quadrant. The sampling that has already been conducted is adequate for this region.)

3. Sample around the single highest value found so far. This is ID 212, with a sample BaPeq concentration value of 61, unless one of the five new random samples produces a higher value. It is the first case in Table 4.2. By "sample around," we mean sample from each location adjacent to the one with the highest concentration, including that location itself if fewer than $S = 8$ samples have been taken from it previously. A total of $S = 8$ soil samples should be drawn from each sampled location. Samples should ideally be placed approximately 125 feet apart, based on the spatial correlation analysis previously described. (In the northeast quadrant, $K = 1$ is also appropriate.)
4. Calculate the sample mean of the log-concentrations of the $S = 8$ sampled values at each location. If the sample mean for a location exceeds 3.5, then consider that location for remedial action. (Further simulation runs show that $S = 8$ is also an appropriate sample size in the northeast quadrant, but that $T = 3.9$ is a better threshold value than $T = 3.5$.)
5. Repeat Step 3 until no higher values are found via sampling.

As the sampling plan is executed, better information about the spatial distribution of concentrations will become available. We recommend that the sampling plan be recalculated as additional sample information are collected, to take full advantage of the sample information in selecting values of N , K , S , and T to minimize the error rate produced by the process.

SECTION 5

OVERVIEW OF THE PROPOSED PRE-REMEDIAL SAMPLING ACTIVITIES

5.1 SAMPLING APPROACH

The Respondents will execute the residential area pre-remedial sampling program in accordance with the strategy outlined in Section 4. In February 1997, a windshield survey was performed of all the properties that are situated within the area of potential impact from Site-related contamination (defined to be a radius of 1,100 feet for the northwest and southwest quadrants, and a radius of 1,300 feet for the northeast quadrant.) This survey identified each property by street address (where available) and specified whether a property was considered to be residential or other (business, commercial, etc.). A coordinate system, based on approximate distances from a specific location on the Site, was developed for each property, and if a particular property was previously sampled during the residential sampling program, this fact was noted. The information generated from this survey is summarized in Appendix A.

As discussed in n Subsection 4.1.2, adaptive partitioning has shown that residential properties located within the northeast quadrant, alone among all the quadrants, (Figure A.1 in Appendix A) have a potential for exceeding the RBCG of 27.5 ppm BaPeq. As a result, the pre-remedial sampling program will concentrate on determining if average surface soil concentrations of PAHs at any residential property within this sector actually exceed the risk-based cleanup goal of 27.5 ppm BaPeq. Adaptive partitioning relative to residential areas in the remaining quadrants does not indicate a potential for the RBCG of 27.5 ppm BaPeq to be exceeded in these areas. Therefore, no further evaluation of the properties within these sectors is anticipated during the pre-remedial evaluation stage. The properties located in the northeast quadrant that are considered part of the pre-remedial sampling program are identified in Table A.1 (Appendix A). These properties are a subset of those identified during the windshield survey. Only residential properties within this sector (not

commercial or industrial locations) will be included in the residential area evaluation process.

5.2 PRE-REMEDIAL EVALUATION PROCESS

The adaptive sampling strategy described in Subsection 4.2 will be employed during pre-remedial sampling. There are approximately 48 residential properties located within the northeast quadrant, of which seven properties were sampled previously as part of the residential area sampling program. Sampling Round No. 1 will commence with the random selection and subsequent sampling of surface soils from five residential properties within Sector 1 that were not previously sampled during the residential sampling program. One grab sample will be collected from a random location on each of the five properties, and the soil samples will be submitted for PAH analysis. The BaPeq level for each sampled property will then be calculated based on the PAH data.

A comparison will be made of all BaPeq data (past and present) for all properties sampled to date within Sector 1, and the properties will be ranked from highest to lowest BaPeq levels. The residential property with the highest BaPeq level (referred to as Property A) will then be used to initiate the adaptive sampling process. All residential properties that surround Property A (including re-sampling Property A) will be sampled as part of Sampling Round No. 2. The results of this sampling round will be ranked from highest to lowest and the property with the highest BaPeq level (referred to as Property B) will be determined. If the BaPeq level of Property B is equal to or higher than Property A, all residential properties surrounding Property B will be sampled as part of Sampling Round No. 3. This process will continue until (1) all homes within Sector 1 have been sampled, up to a maximum of 8 times, or (2) no higher BaPeq levels are found to initiate another round of sampling. Each time a residential property is re-sampled a different random location will be chosen. The recommended distance that each subsequent sample is taken relative to a previously sampled location on the same or neighboring property is 125 feet based on the analysis in the previous section.

As stated in Subsection 4.2, at the culmination of the adaptive sampling process the sample mean of the log-concentration of BaPeq levels, based on the data collected from each residential location, will be calculated. If the sample mean for any property exceeds 3.5, that property will be considered for remedial action. All soil samples will be collected from the top 6 inches of surface soil material, unless it is known that an asphalt cover was or is present on a residential property. No soil samples will be collected from residential locations with an asphalt surface. Soil samples will be collected from below concrete surfaces.

SECTION 6 SUMMARY

This RACWP provides a sequential discussion of the approach that is proposed for the pre-remedial sampling program. It summarizes the initial findings and recommendations of the residential area risk assessment, and demonstrates how these findings and recommendations were used to develop a risk-based strategy for determining whether the PAH levels in the residential community surrounding the Site pose a risk to human health or the environment. A discussion was also provided on how the Respondents propose to execute the pre-remedial evaluation sampling process. The full details of the pre-remedial sampling program, including information on analytical and sample quality assurance/quality control, will be provided as an amendment to the existing SSP (Quality Assurance Project Plan, Field Sampling Plan, and Health and Safety Plan). This SSP amendment will be prepared and submitted to the USEPA Region V for review and approval within 45 business days of receiving USEPA's approval of the RACWP.

SECTION 7 REFERENCES

- Biggs, D., B. DeVille, and Ed Suen, 1991. A method of choosing multiway partitions for classification and decision trees. *Journal of Applied Statistics*, 18, 1, 49-62.
- Thompson, S.K., and G.A.F. Seber. 1996. *Adaptive Sampling*. Wiley, New York.
- Urban Hjorth, J.S., 1994. *Computer Intensive Statistical Methods: Validation, Model Selection, Bootstrap*. Chapman & Hall, New York.
- Alceon Corporation, October 1996, "Probabilistic Calculations to Establish Risk-Based Cleanup Goals for Soils at Residences Near the 2800 South Sacramento Site, Chicago, Illinois."
- Parsons Engineering Science, Inc., January 1997, "Final Engineering Evaluation and Cost Analysis Work Plan for the Former Celotex Site, 2800 South Sacramento Avenue, Chicago, Illinois, 60623."
- Parsons Engineering Science, Inc., March 1997, "Final Support Sampling Plan Engineering Evaluation and Cost Analysis, former Celotex Site, 2800 South Sacramento Avenue, Chicago, Illinois, 60623."

APPENDIX A
RESIDENTIAL HOME COORDINATE SURVEY

MEMORANDUM

To: David A. Paley, P.E.
AlliedSignal, Inc.
Morristown, New Jersey

cc: Anthony Cox , Ph.D.
Cox Associates
Denver, Colorado

From: Mona D. Sutherland
Parsons Engineering Science, Inc.
Oak Brook, Illinois

Re: Residential Homes Coordinate System
2800 South Sacramento Avenue Site
Chicago, Illinois

Date: 7 March 1997

The results of the residential survey performed by Parsons ES are provided in the enclosed binder. Each city block (and associated homes) in the vicinity of the Site, that was identified (on ERM's Figure 4-3) for potential evaluation during the residential remedial action assessment process, was surveyed by Parsons ES. In total, 38 blocks were assessed. Because many of the blocks had commercial and business establishments interspersed between residential properties, the enclosed survey information identifies which establishments are homes and which are not homes. Furthermore, where only partial blocks appeared to be included in the survey zone, a judgment call was made as to whether to survey part, half, or all of the block. The enclosed binder provides the following information:

1. A map showing the Site and the surrounding surveyed area.
2. ERM's Figure 4-3, as provided by Mr. Paley.
3. 57 pages of tables with addresses and the approximated survey coordinates for each establishment.
4. Individual schematics of each of the 38 city blocks surveyed by Parsons ES.

THE MAP

On the map, the numbering system for each block is shown by red numerical characters. In addition, the northing and easting lines developed by Parsons ES for this survey are shown in blue. The point-of-origin for this system is the 2000 North, 2000 East location; therefore, all coordinates are "positive". Because it was not possible to convert

from the existing northing and easting information provided by ERM's surveyors into this approximated system, all the homes originally surveyed by ERM have been included in Parsons ES's survey, and have been assigned northings and easting based on the approximated system. As such, all homes have coordinates based on the same assumptions. All coordinates are measurements in feet from the previously discussed point-of-origin and are based on this map.

THE SURVEY TABLES

The survey summary tables (57 pages) identify each establishment by (1) a map location identifier that corresponds to the placement of a lot within the block and the order in which Parsons ES performed the drive-by survey of the block, (2) an address based on where on a street the lot is located, (3) a description of the establishment to facilitate differentiation between commercial and residential properties, and (4) the coordinate system based on the approximated northing and easting measurements from the 2000 N, 2000 E origin.

THE BLOCK DIAGRAMS

The maps of the 38 city blocks show the relative placement in a block of each establishment that was surveyed by Parsons ES. The determination of where one lot began and ended was estimated by the Parsons ES personnel who performed the drive-by evaluations of each establishment. Visual indicators such as fences and the placement (or absence) of a house were used in this determination. However, as was agreed upon prior to Parsons ES commencing this task, plat of survey maps for each lot within the 38 blocks were not acquired or reviewed to ascertain whether the assumptions used by Parsons ES were accurate in all instances, since this degree of accuracy was not needed for this task.

FIGURE A.1

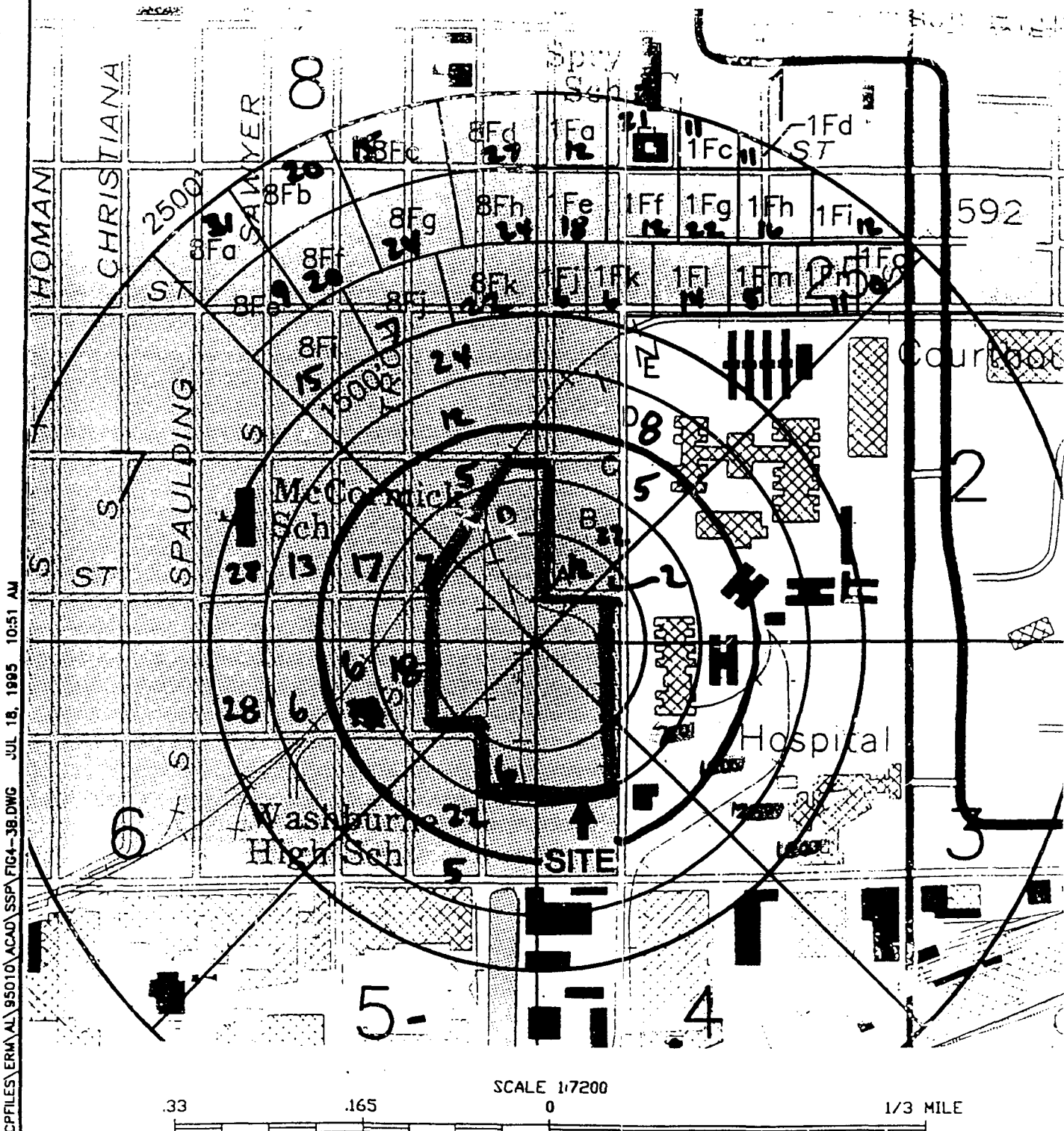
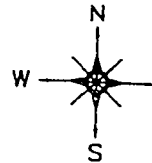


FIGURE 4-3

MULTIPLE RANDOM STARTING POINT
SYSTEMIC RANDOM SAMPLING SUBSECTION
LOCATIONS AND FREQUENCY
CELOTEX SITE
CHICAGO, ILLINOIS

8Fα SUBSECTION DESIGNATION
(4) NUMBER OF SAMPLES

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
1-01	No address Kedzie Ave. & 25th St.		4010	1005
1-02	No address Kedzie Ave.	Laundry Mat	4110	1005
1-03	No address Kedzie Ave.	Building for sale	4150	1005
1-04	2444 Kedzie Ave.	Empty Lot	4180	1005
1-05	2442 Kedzie Ave.	Home	4230	1005
1-06	2440-32 Kedzie Ave.	Body Shop	4260	1005
1-07	2430 Kedzie Ave.	Falcon Body repair	4290	1005
1-08	2424 Kedzie Ave.	Home w/ front yard	4350	1005
1-09	2422 Kedzie Ave.	Home	4380	1005
1-10	No address Kedzie Ave.	Ornamental Iron Shop	4420	1005
1-11	Empty Lot Kedzie Ave.	Empty Lot	4470	1005
1-12	2410 Kedzie Ave. with lot south	Home	4530	1005
1-13	3220 25th St.	Home	4010	785
2-01	2457 Kedzie Ave.	Auto Parts	4030	1105
2-02	2455 Kedzie Ave.	Restaurant	4050	1105
2-03	2451 Kedzie Ave.	Home	4070	1105

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
2-04	2449 Kedzie Ave.	Home	4090	1105
2-05	2445 Kedzie Ave.	Home	4110	1105
2-06	2443 Kedzie Ave.	Home	4130	1105
2-07	2441 Kedzie Ave.	Home	4150	1105
2-08	2439 Kedzie Ave.	Home	4160	1105
2-09	2437 Kedzie Ave. w/ front yard	Home	4190	1105
2-10	2435 Kedzie Ave.	Home	4210	1105
2-11	2431 Kedzie Ave.	Bar	4230	1105
2-12	2429 Kedzie Ave.	Falcon Auto	4250	1105
2-13	2427 Kedzie Ave.	Home	4290	1105
2-14	2423 Kedzie Ave.	Home	4340	1105
2-15	2419 Kedzie Ave. w/ front yard	Home	4380	1105
2-16	2417 Kedzie Ave.	Home	4400	1105
2-17	2415 Kedzie	Electronic Shop	4430	1105
2-18	3142-48 25th St. & Kedzie Ave.	Delco Shop	4030	1105
2-19	2402 Troy Ave.	Home	4570	1335
2-20	2404 Troy Ave.	Home	4560	1335

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Eastings
2-21	2408 Troy Ave. w/ yard north	Home	4530	1335
2-22	2412 Troy Ave.	Home	4490	1335
2-23	2416 Troy Ave.	Home	4470	1335
2-24	2418 Troy Ave.	Home	4400	1335
2-25	No address w/ lot north	Home	4370	1335
2-26	2426 Troy Ave. w/ lot south	Home	4340	1335
2-27	2430 Troy Ave.	Home	4290	1335
2-28	No address	Home	4260	1335
2-29	2436 Troy Ave.	Home	4220	1335
2-30	2438 Troy Ave.	Home	4190	1335
2-31	2440 Troy Ave.	Home	4170	1335
2-32	2442 Troy Ave.	Home	4160	1335
2-33	No address	Home	4130	1335
2-34	2450 Troy Ave. w/ lot north	Home	4090	1335
2-35	No address w/ lot north	Grocery store	4030	1335
3-01	2400 Albany Ave.	Church & School	4520	1680

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
3-02	2428 Albany Ave.	Home	4300	1680
3-03	2430 Albany Ave.	Home	4280	1680
3-04	2432 Albany Ave.	Home	4260	1680
3-05	2434 Albany Ave.	Home	4230	1680
3-06	2436 Albany Ave.	Home	4210	1680
3-07	No address	Home	4190	1680
3-08	2442 Albany Ave.	Home	4170	1680
3-09	2444 Albany Ave.	Home	4140	1680
3-10	3100 25th St. & Albany Ave.	Business	4050	1680
3-11	3108 25th St. w/ front yard	Home	4090	1595
3-12	3110 25th St. w/ front yard	Home	4090	1575
3-13	3114 25th St.	Home	4010	1525
3-14	No address	Home	4010	1500
3-15	3120 25th St.	Home	4010	1465
3-16	3122 25th St.	Home	4010	1445
3-17	3124 25th St.	Home	4010	1435
3-18	2401 Troy Ave.	Business	4570	1435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
3-19	2405 Troy Ave.	Home	4550	1435
3-20	2407 Troy Ave. w/ front yard	Home	4520	1435
3-21	2409 Troy Ave.	Home	4510	1435
3-22	2411 Troy Ave.	Home	4470	1435
3-23	2413 Troy Ave.	Home	4430	1435
3-24	2415 Troy Ave.	Home	4410	1435
3-25	2417 Troy Ave.	Home	4380	1435
3-26	2419 Troy Ave.	Home	4360	1435
3-27	2421 Troy Ave.	Home	4320	1435
3-28	2423 Troy Ave.	Home	4300	1435
3-29	2429 Troy Ave.	Home	4280	1435
3-30	2433 Troy Ave.	Home	4250	1435
3-31	2435 Troy Ave. w/ front yard	Home	4230	1435
3-32	2437 Troy Ave.	Home	4210	1435
3-33	2439 Troy Ave. w/ yard south	Home	4180	1435
3-34	No address	Home	4140	1435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
4-01	2458 Whipple Ave.	Business	4010	2000
4-02	2454 Whipple Ave.	Century 21 office	4040	2000
4-03	2452 Whipple Ave.	Home	4060	2000
4-04	2450 Whipple Ave.	Home	4090	2000
4-05	2448 Whipple Ave.	Home	4120	2000
4-06	2446 Whipple Ave. w/ front yard	Home	4140	2000
4-07	2442 Whipple Ave.	Home	4150	2000
4-08	2440 Whipple Ave.	Home	4180	2000
4-09	2438 Whipple Ave.	Home	4210	2000
4-10	2436 Whipple Ave. w/ front yard	Home	4230	2000
4-11	2434 Whipple Ave.	Home	4250	2000
4-12	2430 Whipple Ave.	Home	4270	2000
4-13	2428 Whipple Ave.	Home	4290	2000
4-14	2426 Whipple Ave. w/ front yard & north lot	Home	4320	2000
4-15	2420 Whipple Ave.	Home	4350	2000
4-16	2418 Whipple Ave.	Home	4380	2000
4-17	2416 Whipple Ave. w/ front yard	Home	4410	2000

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Eastings
4-18	2414 Whipple Ave. w/ front yard	Home	4450	2000
4-19	2410 Whipple Ave.	Home	4470	2000
4-20	2408 Whipple Ave.	Home	4510	2000
4-21	No address	2 Empty Lots	4550	2000
4-22	2401 Albany Ave.	Home	4550	1780
4-23	2403 Albany Ave.	Home	4520	1780
4-24	2407 Albany Ave.	Home	4510	1780
4-25	2411 Albany Ave.	Home	4470	1780
4-26	2415 Albany Ave.	Home	4450	1780
4-27	2417 Albany Ave.	Home	4410	1780
4-28	2419 Albany Ave.	Home	4350	1780
4-29	2421 Albany Ave.	Home	4350	1780
4-30	2425 Albany Ave.	Home	4330	1780
4-31	2427 Albany Ave. w/ front yard	Home	4320	1780
4-32	2429 Albany Ave.	Home	4280	1780
4-33	2431 Albany Ave.	Home	4270	1780
4-34	2435 Albany Ave.	Home	4250	1780

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
4-35	2437 Albany Ave.	Home	4230	1780
4-36	2439 Albany Ave.	Home	4210	1780
4-37	2441 Albany Ave.	Home	4180	1780
4-38	2445 Albany Ave.	Home	4150	1780
4-39	2447 Albany Ave.	Home	4140	1780
4-40	2449 Albany Ave.	Home	4120	1780
4-41	2451 Albany Ave.	Home	4090	1780
4-42	2453 Albany Ave.	Home	4060	1780
4-43	No address	Home	4040	1780
4-44	No address	Furniture Store	4000	1780
5-02	2404 Sacramento Ave.	Home	4550	2355
5-03	2406 Sacramento Ave.	Home	4530	2355
5-04	2408 Sacramento Ave.	Home	4510	2355
5-05	2410 Sacramento Ave.	Home	4480	2355
5-06	2412 Sacramento Ave.	Home	4450	2355
5-07	2416 Sacramento Ave.	Home	4420	2355

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
5-08	2418 Sacramento Ave.	Home	4390	2355
5-09	No address w/ front yard	Home	4370	2355
5-10	2424 Sacramento Ave.	Home	4340	2355
5-11	2426 Sacramento Ave.	Home	4320	2355
5-12	2428 Sacramento Ave.	Home	4290	2355
5-13	2430 Sacramento Ave.	Home	4270	2355
5-14	No address	Home	4250	2355
5-15	2436 Sacramento Ave.	Home	4230	2355
5-16	2438 Sacramento Ave.	Home	4210	2355
5-17	2440 Sacramento Ave.	Home	4180	2355
5-18	2442 Sacramento Ave.	Home	4160	2355
5-19	2446 Sacramento Ave.	Home	4140	2355
5-20	2448 Sacramento Ave.	Home	4120	2355
5-21	No address w/ lots north & south	Home	4070	2355
5-22	2458 Sacramento Ave.	Food & Liquor Store	4000	2355
5-24	3016 25th St.	Home	4000	2130
5-25	2455 Whipple Ave.	Home	4050	2130

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
5-26	2453 Whipple Ave.	Home	4070	2130
5-27	2451 Whipple Ave.	Home	4090	2130
5-28	2449 Whipple Ave.	Home	4120	2130
5-29	2447 Whipple Ave.	Home	4140	2130
5-30	2443 Whipple Ave.	Home	4160	2130
5-31	2441 Whipple Ave.	Home	4180	2130
5-32	2439 Whipple Ave.	Home	4210	2130
5-33	2437 Whipple Ave.	Home	4230	2130
5-34	2435 Whipple Ave. setback	Home	4250	2130
5-35	2431 Whipple Ave.	Home	4270	2130
5-36	2429 Whipple Ave. w/ front yard	Home	4290	2130
5-37	2427 Whipple Ave. w/ front yard	Home	4320	2130
5-38	2425 Whipple Ave. w/ front yard	Home	4340	2130
5-39	2419 Whipple Ave.	Home	4380	2130
5-40	2417 Whipple Ave.	Home	4420	2130
5-41	2415 Whipple Ave.	Home	4450	2130
5-42	2411 Whipple Ave.	Home	4480	2130

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
5-43	2409 Whipple Ave.	Home	4510	2130
5-44	2407 Whipple Ave. w/ front yard	Home	4530	2130
5-45	2405 Whipple Ave.	Home	4550	2130
5-46	2401 Whipple Ave.	Home	4580	2130
6	School			
7-01	2900 25th St.	Beauty Salon	4000	3035
7-02	2902 25th St.	Home	4000	3005
7-03	No Address	Home	4000	2975
7-04	2908 25th St.	Home	4000	2955
7-05	2910 25th St. with lot to west	Home	4000	2925
7-06	2914 25th St.	Home	4000	2875
7-07	2918 25th St.	Home	4000	2835
7-08	2920 25th St.	Home	4000	2805
7-09	2924 25th St. with lot to east	Home	4000	2785
7-10	2926 25th St.	Home	4000	2755

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
7-11	2930 25th St.	Home	4000	2735
7-12	2932 25th St.	Home	4000	2715
7-13	2934 25th St.	Home	4000	2685
7-14	2439 25th St.	Home	4150	2685
7-15	No Address	Home	4200	2685
7-16	School	School		
7-17	2442 Francisco Ave.	Home	4180	3005
8-01 & 2	2825 25th St.	Home	4000	3115
8-03	2852 25th St.	Home	4000	3145
8-04	2848 25th St. with lot west	Home	4000	3165
8-05	2846 25th St.	Home	4000	3235
8-06	2844 25th St.	Home	4000	3265
8-07	2840 25th St.	Home	4000	3285
8-08	2838 25th St.	Home	4000	3315
8-09	2836 25th St.	Home	4000	3335
8-10	2834 25th St.	Home	4000	3365

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
8-11	2832 25th St.	Home	4000	3370
8-12	2830 25th St.	Home	4000	3415
8-13	No address	2 Empty Lots	4000	3465
8-14	2822 25th St.	Home	4000	3485
8-15	2820 25th St.	Home	4000	3505
8-16	No address	Empty Lot	4000	3535
8-17	No address	Bar	4000	3555
9-01	No address	Market	3370	320
9-02	2546 Spaulding Ave.	Home	3460	320
9-03	2544 Spaulding	Home	3470	320
9-04	2542 Spaulding Ave. large lot	Home	3500	320
9-05	2538 Spaulding Ave.	Home	3540	320
9-06	2534 Spaulding Ave.	Home	3570	320
9-07	2532 Spaulding Ave.	Home	3600	320
9-08	2530 Spaulding Ave.	Home	3620	320
9-09	2528 Spaulding Ave.	Home	3640	320

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
9-10	2524 Spaulding Ave. w/ front yard	Home	3680	320
9-11	2522 Spaulding Ave.	Home	3690	320
9-12	2520 Spaulding Ave.	Home	3730	320
9-13	2514 Spaulding Ave. w/ lot	Home	3760	320
9-14	2512 Spaulding Ave.	Home	3800	320
9-15	2510 Spaulding Ave.	Home	3820	320
9-16	2508 Spaulding Ave.	Home	3840	320
9-17	2504 Spaulding Ave.	Home	3870	320
9-18	2502 Spaulding Ave.	Home	3890	320
9-19	2500 Spaulding Ave.	Home	3920	320
9-20	Christina Ave. & 25th	Laundry Mat	3920	180
9-21	2505 Christina Ave.	Home	3890	90
9-22	2509 Christina Ave.	Home	3840	90
9-23	2511 Christina Ave.	Home	3820	90
9-24	2513 Christina Ave. w/ lot	Home	3800	90
9-25	2521 Christina Ave. w/ lot	Home	3730	90
9-26	2523 Christina Ave.	Home	3690	90

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
9-27	No address w/ front yard	Home	3680	90
9-28	2529 Christina Ave.	Home	3640	90
9-29	2531 Christina Ave.	Home	3620	90
9-30	2533 Christina Ave.	Home	3600	90
9-31	2535 Christina Ave.	Home	3570	90
9-32	No address	Home	3550	90
9-33	2541 Christina Ave.	Home	3530	90
9-34	2543 Christina Ave.	Home	3500	90
9-35	2545 Christina Ave.	Home	3470	90
9-36	2551 Christina Ave. w/ lot	Home	3460	90
9-37	2553 Christina Ave.	Home	3430	90
9-38	Christina Ave. & 26th	Restaurant	3370	90

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
10-01	25th & Sawyer Ave.	Glass Construction Company	3920	435
10-02	2500 Sawyer Ave.	Furniture Store	3920	665
10-03	2504 Sawyer Ave.	Home	3870	665
10-04	No address	Home	3850	665
10-05	2510 Sawyer Ave.	Home	3820	665
10-06	2512 Sawyer Ave.	Home	3800	665
10-07	2514 Sawyer Ave.	Home	3770	665
10-08	2518 Sawyer Ave.	Home	3740	665
10-09	2520 Sawyer Ave.	Home	3710	665
10-10	No address	Home	3690	665
10-11	No address	Home	3670	665
10-12	No Address	Home	3630	665
10-13	2530 Sawyer Ave.	Home	3620	665
10-14	2532 Sawyer Ave.	Home	3590	665
10-15	2534 Sawyer Ave.	Home	3570	665
10-16	2536 Sawyer Ave.	Home	3540	665
10-17	2540 Sawyer Ave.	Home	3530	665

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
10-18	2542 Sawyer Ave.	Home	3520	665
10-19	2544 Sawyer Ave.	Home	3480	665
10-20	2546 Sawyer Ave.	Home	3460	665
10-21	2550 Sawyer Ave.	Home	3450	665
10-22	No address	Home	3430	665
10-23	3234 26th St.	store	3370	665
10-24	3236 26th St.	Fayva Shoe store	3370	665
10-25	No address	Men's Wear store	3370	665
10-26	3246 26th St.	Auto Shop	3370	435
10-27	2551 Spaulding Ave.	Auto	3430	435
10-28	2547 Spaulding Ave.	Home	3460	435
10-29	2545 Spaulding Ave.	Home	3480	435
10-30	2543 Spaulding Ave.	Home	3500	435
10-31	2541 Spaulding Ave. w/ front yard	Home	3520	435
10-32	2539 Spaulding Ave.	Home	3540	435
10-33	2537 Spaulding Ave.	Home	3570	435
10-34	2533 Spaulding Ave.	Home	3590	435

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
10-35	2531 Spaulding Ave.	Home	3620	435
10-36	2529 Spaulding Ave.	Home	3630	435
10-37	2527 Spaulding Ave.	Home	3670	435
10-38	2523 Spaulding Ave.	Home	3690	435
10-39	2521 Spaulding Ave.	Home	3710	435
10-40	2519 Spaulding Ave.	Home	3740	435
10-41	2517 Spaulding Ave. w/ front yard	Home	3770	435
10-42	2513 Spaulding Ave.	Home	3800	435
10-43	2511 Spaulding Ave.	Home	3820	435
10-44	2509 Spaulding Ave.	Home	3840	435
10-45	2503 Spaulding Ave.	Home	3870	435
10-46	2501 Spaulding Ave.	Home	3890	435
11-02	26th St.	Mount Sini - Medical	3370	925
11-03	26th St.	"Church's Chicken"	3430	855
11-04	Empty lot Sawyer Ave.	Empty Lot	3920	785
11-05	2503 Sawyer Ave.	Home	3890	785

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
11-06	2509 Sawyer Ave.	Home	3840	785
11-07	2511 Sawyer Ave.	Home	3820	785
11-08	2513 Sawyer Ave.	Home	3800	785
11-09	2517 Sawyer Ave.	Home	3760	785
11-10	2519 Sawyer Ave.	Home	3730	785
11-11	2521 Sawyer Ave.	Home	3710	785
11-12	2523 Sawyer Ave.	Home	3690	785
11-13	2527 Sawyer Ave. w/ front yard	Home	3670	785
11-14	2529 Sawyer Ave.	Home	3640	785
11-15	2531 Sawyer Ave.	Home	3620	785
11-16	2533 Sawyer Ave.	Home	3600	785
11-17	2537 Sawyer Ave.	Home	3570	785
11-18	2539 Sawyer Ave.	Home	3550	785
11-19	2541 Sawyer Ave.	Home	3530	785
11-20	2543 Sawyer Ave.	Home	3510	785
11-21	2545 Sawyer Ave.	Home	3470	785
11-22	No address Kedzie Ave. w/ north lot	Home	3890	1005
11-23	No address Kedzie Ave.	Home	3840	1005

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
11-24	2510 Kedzie Ave.	Home	3820	1005
11-25	2512 Kedzie Ave.	Home	3800	1005
11-26	2514 Kedzie Ave.	Home	3760	1005
11-27	2516 Kedzie Ave.	Home	3730	1005
11-28	No address w/ lot north	Restaurant w/ parking lot	3620	1005
11-29	2534 & 2540 Kedzie Ave.	Home	3570	1005
11-30	2542 Kedzie Ave.	Home	3510	1005
11-31	2546 Kedzie Ave. & 2500 26th St.	True Value, Locksmith, Grocery store	3430	1005
12-1	2541 Kedzie Ave.	Furniture Store-Rossi Bro.	3430	1105
12-2	2539 Kedzie Ave.	Home	3520	1105
12-3	2537 Kedzie Ave.	Home	3540	1105
12-4	2535 Kedzie Ave.	Home	3570	1105
12-5	2533 Kedzie Ave.	Home	3590	1105
12-6	2531 Kedzie Ave.	Home	3610	1105
12-7	2525 Kedzie Ave.	Has Parking lot to the south	3630	1105
12-8	2523 Kedzie Ave.	Home	3690	1105

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
12-9	2521 Kedzie Ave.	Home	3700	1105
12-10	2519 Kedzie Ave.	Home	3730	1105
12-11	2517 Kedzie Ave.	Home	3760	1105
12-12	No Address	Parking lot	3800	1105
12-13	25th & Kedzie Ave.	Ball Room	3890	1105
12-14	3137 25th St.	Home	3890	1305
12-15	3135 25th St. & Troy Ave.	Home	3890	1335
12-12	2512 Troy Ave.	Home	3840	1335
12-17	2514 Troy Ave.	Home	3800	1335
12-18	2518 Troy Ave.	Home	3760	1335
12-19	2520 Troy Ave.	Home	3730	1335
12-20	2522 Troy Ave.	Home	3700	1335
12-21	2524 Troy Ave.	Home	3690	1335
12-22	2526 Troy Ave.	Home	3670	1335
12-23	2528 Troy Ave.	Home	3630	1335
12-24	No Address	Home	3610	1335
12-25	No Address	Home	3590	1335

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
12-26	2536 Troy Ave.	Home	3570	1335
12-27	2538 Troy Ave.	Bar Lounge	3540	1335
12-28	2540 Troy Ave.	Home	3520	1335
12-29	2542 Troy Ave.	Home	3500	1335
12-30	2546 Troy Ave.	Home	3470	1335
12-31	26th and Troy Ave.	Grocery Store	3430	1335
13-01	3101 25th St.	Home	3890	1680
13-02	2514 Albany Ave.	Home	3780	1680
13-03	2518 Albany Ave.	Home	3730	1680
13-04	2520 Albany Ave.	Home	3710	1680
13-05	2524 Albany Ave.	Home	3690	1680
13-06	2526 Albany Ave.	Empty lot	3670	1680
13-07	2528 Albany Ave.	Home	3640	1680
13-08	2530 Albany Ave.	Home	3620	1680
13-09	2532 Albany Ave.	Home	3600	1680
13-10	No address	Empty lot	3570	1680

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
13-11	No address	Home	3540	1680
13-12	2540 Albany Ave.	Home	3530	1680
13-13	No address	Home	3500	1680
13-14	No address	Home	3470	1680
13-15	2548 Albany Ave.	Home	3460	1680
13-16	2550 Albany Ave.	Home	3450	1680
13-17	2552 Albany Ave.	Home	3440	1680
13-18	No address	Home	3420	1680
13-19	26th St. & Albany Ave.	Bar	3550	1680
13-20	3120 26th St.	Restaurant	3550	
13-21	3126 26th St.	"Natural Product" store	3350	1435
13-22	2515 Troy Ave.	Home	3430	1435
13-23	2517 Troy Ave.	Home	3450	1435
13-24	2519 Troy Ave.	Home	3460	1435
13-25	2523 Troy Ave.	Home	3470	1435
13-26	2525 Troy Ave.	Home	3500	1435
13-27	2527 Troy Ave.	Home	3530	1435

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
13-28	2529 Troy Ave.	Home	3540	1435
13-29	2531 Troy Ave.	Home	3570	1435
13-30	2533 & 35 Troy Ave.	Body shop	3600	1435
13-31	No address	Home	3620	1435
13-32	2541 Troy Ave.	Home	3640	1435
13-33	2543 Troy Ave.	Home	3670	1435
13-34	2545 Troy Ave.	Home	3690	1435
13-35	2547 Troy Ave.	Home	3720	1435
13-36	2551 Troy Ave.	Home	3730	1435
13-37	2553 Troy Ave.	Home	3760	1435
13-38	3125 25th St.	Home	3920	1435
13-39	3123 25th St.	Home	3920	1445
13-40	3121 25th St.	Home	3920	1470
13-41	No address	Lot	3920	1505
13-42	3115 25th St.	Home	3920	1525
13-43	3111 25th St.	Home	3920	1565
13-44	no address	Empty lot	3920	1595

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
13-45	3105 25th St.	Home	3920	1625
13-46	3103 25th St.	Home	3850	1650
14-01	3056 26th St.	Auto repair	3430	1780
14-02	2543 Albany Ave.	Home	3510	1780
14-03	No address	Home	3540	1780
14-04	2537 Albany Ave.	Home	3560	1780
14-05	2535 Albany Ave.	Home	3570	1780
14-06	2533 Albany Ave.	Home	3580	1780
14-07	2531 Albany Ave.	Home	3600	1780
14-08	2527 Albany Ave.	Home	3640	1780
14-09	2525 Albany Ave.	Home	3670	1780
14-10	2523 Albany Ave.	Home	3700	1780
14-11	2521 Albany Ave.	Home	3730	1780
14-12	2519 Albany Ave.	Home	3760	1780
14-13	2517 Albany Ave.	Home	3770	1780
14-14	2513 Albany Ave.	Home	3790	1780

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
14-15	2511 Albany Ave.	Home	3820	1780
14-16	2509 Albany Ave.	Home	3860	1780
14-17	2507 Albany Ave.	Home	3870	1780
14-18	2503 Albany Ave.	Home	3890	1780
14-19	No address 25th St. & Whipple Ave.	Restaurant & Mini-Mart	3890	2000
14-20	2506 Whipple Ave.	Home	3870	2000
14-21	2508 Whipple Ave.	Home	3850	2000
14-22	2510 Whipple Ave.	Home	3820	2000
14-23	2512 Whipple Ave.	Home	3790	2000
14-24	2514 Whipple Ave.	Home	3770	2000
14-25	2518 Whipple Ave.	Home	3760	2000
14-26	2520 Whipple Ave.	Home	3730	2000
14-27	2522 Whipple Ave.	Home	3700	2000
14-28	No address	Home	3640	2000
14-29	2532 Whipple Ave.	Home	3600	2000
14-30	2534 Whipple Ave.	Home	3580	2000
14-31	2536 Whipple Ave.	Home	3560	2000

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
14-32	2540 Whipple Ave.	Home	3540	2000
14-33	2542 Whipple Ave.	Home	3510	2000
14-34	Whipple Ave. & 26th St.	Empty lot	3370	2000
14-35	3038 26th St.	Bar	3370	1980
14-36	26th St.	Business	3370	1950
14-37	26th St.	Business	3370	1910
14-38	26th St.	Business	3370	1880
14-39	26th St.	Restaurant	3370	1860
15-01	2538 Sacramento Ave.	Home	3500	2355
15-02	2536 Sacramento Ave.	Home	3560	2355
15-03	2534 Sacramento Ave.	Home	3580	2355
15-04	2532 Sacramento Ave.	Home	3610	2355
15-05	2530 Sacramento Ave.	Home	3630	2355
15-06	2528 Sacramento Ave.	Home	3650	2355
15-07	2524 Sacramento Ave.	Home	3680	2355
15-08	2522 Sacramento Ave.	Home	3700	2355

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
15-09	No Address	Home	3720	2355
15-10	No Address	Home	3740	2355
15-11	2514 Sacramento Ave.	Home	3770	2355
15-12	2510 Sacramento Ave.	Home	3800	2355
15-13	2508 Sacramento Ave.	Home	3820	2355
15-14	2506 Sacramento Ave.	Home	3840	2355
15-15	2504 Sacramento Ave.	Home	3860	2355
15-16	2502 Sacramento Ave.	Home	3900	2355
15-17	2500 Sacramento Ave.	Home	3920	2355
15-18	3011 25th St.	Home	3920	2260
15-19	No Address Whipple Ave. & 25th St.	Business	3920	2130
15-20	2503 Whipple Ave.	Home	3900	2130
15-21	2507 Whipple Ave.	Home	3860	2130
15-22	2509 Whipple Ave.	Home	3840	2130
15-23	2511 Whipple Ave.	Home	3820	2130
15-24	2513 Whipple Ave.	Home	3800	2130
15-25	2515 Whipple Ave.	Home	3770	2130

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
15-26	2519 Whipple Ave.	Home	3740	2130
15-27	2521 Whipple Ave.	Home	3720	2130
15-28	2523 Whipple Ave.	Home	3700	2130
15-29	2525 Whipple Ave.	Home	3680	2130
15-30	No Address	Home	3650	2130
15-31	2531 Whipple Ave.	Home	3630	2130
15-32	2533 Whipple Ave.	Home	3610	2130
15-33	2535 Whipple Ave.	Home	3580	2130
15-34	No Address	Lot	3560	2130
15-35	No Address	Home	3530	2130
15-36	2543 Whipple Ave.	Home	3500	2130
15-37	No Address	EZ-Go Gas Station	3410	2130
15-38	3010 26th St.	Business	3410	2190
15-39	3002 26th St.	Restaurant	3410	2350
15-40	No Address Sacramento & 26th St.	Restaurant	3410	2360
15-41	No Address	Parking Lot to Restaurant (15-39)	3410	2260

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
16-01	2954 25th Place	Business - Video Store	3690	2525
16-02	2950 25th Place	Empty lot	3690	2575
16-03	2946 25th Place	Home	3690	2605
16-04	No Address	Home	3690	2625
16-05	2940 25th Place	Home	3690	2645
16-06	2938 25th Place	Home	3690	2675
16-07	2936 25th Place	Home	3690	2695
16-08	2934 25th Place	Home	3690	2725
16-09	2932 25th Place	Home	3690	2735
16-10	2928 25th Place	Home	3690	2765
16-11	2926 25th Place	Home	3690	2785
16-12	No Address	Home	3690	2815
16-13	2920 25th Place	Home	3690	2835
16-14	2916 25th Place	Home	3690	2865
16-15	2914 25th Place	Home	3690	2885
16-16	2912 25th Place	Home	3690	2915
16-17	2910 25th Place	Home	3690	2935

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
16-18	2908 25th Place	Home	3690	2955
16-19	2904 25th Place	Home	3690	2985
16-20	2902 25th Place	Home	3690	3005
16-21	2900 25th Place	Home	3690	3035
16-22	2954 Sacramento Ave.	Business	3760	2455
16-23	No Address	Garage	3920	2455
16-24	2959 25th St.	Funeral Chapel	3920	2475
16-25	2951 25th St.	Home	3920	2525
16-26	2949 25th St.	Home	3920	2555
16-27	2947 25th St.	Home	3920	2575
16-28	No Address	Empty Lot	3920	2605
16-29	2941 25th St.	Home	3920	2625
16-30	2939 25th St.	Home	3920	2645
16-31	2937 25th St.	Home	3920	2675
16-32	No Address	Empty Lot	3920	2695
16-33	No Address	Home	3920	2725
16-34	2927 25th St.	Home	3920	2765

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
16-35	2925 25th St.	Home	3920	2785
16-36	2923 25th St.	Home	3920	2815
16-37	No Address	Home	3920	2835
16-38	2917 25th St.	Home	3920	2865
16-39	2915 25th St.	Home	3920	2915
16-40	2913 25th St.	Home	3920	2935
16-41	No Address	Home	3920	2955
16-43	2905 25th St.	Home	3920	2985
16-44	2903 25th St.	Home	3920	3005
16-45	2901 25th St.	Home	3960	3035
16-46	2904 Francisco Ave.	Home	3830	3035
17-01	Corner of Sacramento & 25th Place	Enclosed, Former Garage	3570	2455
17-02	2951 25th Place	Home	3570	2525
17-03	2949 25th Place	Home	3570	2555
17-04	2947 25th Place	Home	3570	2575
17-05	2943 25th Place	Home	3570	2605

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
17-06	2941 25th Place	Home	3570	2625
17-07	2939 25th Place	Home	3570	2645
17-08	2937 25th Place	Home	3570	2675
17-09	2935 25th Place	Home	3570	2695
17-10	2933 25th Place	Home	3570	2725
17-11	2929 25th Place	Home	3570	2735
17-12	2927 25th Place	Home	3570	2765
17-13	2925 25th Place	Home	3570	2785
17-14	2923 25th Place	Home	3530	2815
17-15	2921 25th Place	Home	3530	2835
17-16	2919 25th Place	Home	3570	2865
17-17	No Address	Home	3570	2885
17-18	2913 25th Place	Home	3570	2915
17-19	2911 25th Place	Home	3570	2935
17-20	2909 25th Place	Home	3570	2955
17-21	2907 25th Place	Home	3570	2985
17-22	No Address	Store	3470	3035

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
17-23	2547 Sacramento Ave.	Home	3570	2455
17-24	No Address Francisco Ave.	Home	3520	3035
17-25	2904 26th St.	Able Plumbing	3430	2915
17-26	2922 - 2944 26th St.	Businesses	3430	2675
17-27	No Address Sacramento & 26th St.	Business	3430	2625
18-01	2859 25th Place	Empty lot	3600	3115
18-02	2855 25th Place	Home	3600	3145
18-03	No address	Home	3600	3165
18-04	2847 25th Place	Home	3600	3175
18-05	2845 25th Place	Home	3600	3235
18-06	2841 25th Place	Home	3600	3265
18-07	2839 25th Place	Home	3600	3285
18-08	2837 25th Place	Home	3600	3315
18-09	2835 25th Place	Home	3600	3335
18-10	2833 25th Place	Home	3600	3360
18-11	2831 25th Place	Empty lot	3600	3375

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
18-12	2827 25th Place	Home	3600	3415
18-13	2825 25th Place	Home	3600	3460
18-14	2823 25th Place	Home	3600	3470
18-15	2821 25th Place	Home	3600	3485
18-16	2819 25th Place	Home	3600	3505
18-17	No address	Home	3600	3535
18-18	2814 - 44 26th St.	Lot and Car Wash	3430	3550
18-19	2852 25th Place	Home	3690	3130
18-20	2850 25th Place	Home	3690	3165
18-21	2848 25th Place	Home	3690	3175
18-22	2846 25th Place	Home	3690	3235
18-23	2844 25th Place	Home	3690	3265
18-24	2842 25th Place	Home	3690	3285
18-25	No address	Home	3690	3315
18-26	2836 25th Place	Home	3690	3335
18-27	2834 25th Place	Home	3690	3360
18-28	2832 25th Place	Home	3690	3375

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
18-29	No address	Home	3690	3415
18-30	2826 25th Place	Home	3690	3460
18-31	2824 25th Place	Home	3690	3470
18-32	2822 25th Place	Home	3690	3485
18-33	2820 25th Place	Home	3730	3505
18-34	2818 25th Place	Home	3690	3530
18-35	2814 25th Place	Home	3690	3540
18-36	2859 25th St.	Home	3910	3115
18-37	2857 25th St.	Home	3910	3130
18-38	2853 25th St.	Home	3910	3145
18-39	2851 25th St.	Home	3910	3165
18-40	2849 25th St.	Home	3910	3175
18-41	2847 25th St.	Home	3910	3235
18-42	No Address	Home	3910	3265
18-43	2841 25th St.	Home	3910	3285
18-44	2839 25th St.	Home	3910	3315
18-45	2837 25th St.	Home	3910	3335

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
18-46	No Address	Home	3840	3360
18-47	No Address	Empty Lot with Cars	3910	3390
18-48	2827 25th St.	Home	3910	3460
18-49	2825 25th St.	Home	3910	3470
18-50	2823 25th St.	Home	3910	3485
18-51	2821 25th St.	Home	3910	3505
18-52	2819 25th St.	Home	3910	3530
18-53	2815 25th St.	Home	3910	3540
19-01	2532 California Ave.	Law Firm	3855	3600
19-02	2536 California Ave.	Business	3855	3570
19-03	No Address	Detective Agency - California Ave.	3855	3540
19-04	2556 California Ave.	Popeye's Chicken	3855	3370
19-05	2802 26th St.	Law Firm	3595	3370
19-06	No Address	Lot	3855	3920
19-07	No Address	Home	3855	3870
19-08	2510 California Ave.	Home	3855	3850

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
19-09	No Address	Lot	3855	3790
19-10	2516 California Ave.	Home	3855	3760
19-11	2518 California Ave.	Home	3855	3740
19-12	2520 California Ave.	Home	3855	3710
19-13	2524 California Ave.	Home	3855	3690
19-14	No Address	Restaurant	3855	3670

Shaded rows indicted previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
21-01	26th St.	Various retail shops	3230	435-665
21-02	2614 Sawyer Ave.	Home	3120	665
21-03	2616 Sawyer Ave.	Home	3090	665
21-04	2620 Sawyer Ave.	Home	3070	665
21-05	2622 Sawyer Ave.	Home	3050	665
21-06	2624 Sawyer Ave.	Home	3030	665
21-07	2626 Sawyer Ave.	Home	3000	665
21-08	2628 Sawyer Ave.	Home	2970	665
21-09	2632 Sawyer Ave.	Home	2960	665
21-10	2634 Sawyer Ave.	Home	2930	665
21-11	2636 Sawyer Ave.	Home	2910	665
21-12	2638 Sawyer Ave.	Home	2880	665
21-13	2640 Sawyer Ave.	Home	2860	665
21-14	No address	Empty lot	2830	665
21-15	2646 Sawyer Ave.	Home	2790	665
21-16	2650 Sawyer Ave. w/ front yard	Home	2750	665
21-17	2652 Sawyer Ave.	Home	2730	665

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
21-18	No address w/ front yard	Home	2720	665
21-19	2658 Sawyer Ave.	Home	2690	665
22-01	Kedzie Ave. & 26th St.	Shell Gas Station	3230	1005
22-02	2612 Kedzie Ave.	Restaurant	3190	1005
22-03	2618 Kedzie Ave.	Home	3120	1005
22-04	2620 Kedzie Ave.	Home	3090	1005
22-05	2622 Kedzie Ave.	Home	3050	1005
22-06	2624 Kedzie Ave.	Home	3020	1005
22-07	2628 Kedzie Ave.	Home	3010	1005
22-08	2630 Kedzie Ave.	Home	2980	1005
22-09	2632 Kedzie Ave.	Home	2960	1005
22-10	2636 Kedzie Ave.	Home	2930	1005
22-11	2640 Kedzie Ave.	Home	2910	1005
22-12	2642 Kedzie Ave.	Home	2870	1005
22-13	2644 Kedzie Ave.	Home	2850	1005
22-14	2646 Kedzie Ave. w/ lot south	Home	2790	1005

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
22-15	2650 Kedzie Ave.	Home	2740	1005
22-16	2658 Kedzie Ave. & 27th St.	Food Mart	2690	1005
22-17	26th St. and Sawyer Ave.	Handy Andy	3230	785
22-18	2615 Sawyer Ave.	Home	3130	785
22-19	2617 Sawyer Ave.	Home	3090	785
22-20	2619 Sawyer Ave.	Home	3050	785
22-21	2621 Sawyer Ave.	Home	3030	785
22-22	2625 Sawyer Ave.	Home	3020	785
22-23	2627 Sawyer Ave.	Home	2990	785
22-24	2629 Sawyer Ave.	Home	2980	785
22-25	2631 Sawyer Ave. w/ front yard	Home	2950	785
22-26	2635 Sawyer Ave.	Home	2930	785
22-27	2637 Sawyer Ave. w/ front yard	Home	2910	785
22-28	2639 Sawyer Ave.	Home	2870	785
22-29	2641 Sawyer Ave.	Home	2850	785
22-30	2645 Sawyer Ave.	Home	2790	785
22-31	2647 Sawyer Ave. w/ front yard	Home	2780	785

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
22-32	2649 Sawyer Ave.	Home	2750	785
22-33	2651 Sawyer Ave. w/ lot south	Home	2730	785
22-34	2657 Sawyer Ave.	Home	2720	785
22-35	No address	Home	2690	785
23-01	26th St. & Troy Ave.	New building under construction	3230	1335
23-02	2614 Troy Ave.	Home	3170	1335
23-03	No address	Home	3120	1335
23-04	No address	Home	3090	1335
23-05	2622 Troy Ave.	Home	3060	1335
23-06	2624 Troy Ave.	Home	3020	1335
23-07	No address	Empty lot	2970	1335
23-08	No address	Home	2960	1335
23-09	2634 Troy Ave.	Home	2930	1335
23-10	2636 Troy Ave.	Home	2900	1335
23-11	2638 Troy Ave.	Home	2870	1335

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
23-12	No address	Empty lot	2830	1335
23-13	2644 Troy Ave.	Home	2790	1335
23-14	2646 Troy Ave.	Home	2760	1335
23-15	2648 Troy Ave.	Home	2740	1335
23-16	2650 Troy Ave.	Home	2730	1335
23-17	Lot w/ semi-trailers	Parking lot	2720	1335
23-18	No address Troy Ave. & 27th St.	Home	2690	1335
23-19	2651 Kedzie Ave.	Home	2740	1105
23-20	2647 Kedzie Ave.	Home	2790	1105
24-01	3125 26th St. & 2605 Troy Ave.	Home	3230	1435
24-02	2611 Troy Ave.	Home	3160	1435
24-03	No address	Home	3120	1435
24-04	2617 Troy Ave.	Home	3090	1435
24-05	2621 Troy Ave.	Home	3060	1435
24-06	2623 Troy Ave.	Home	3050	1435
24-07	2625 Troy Ave.	Home	3020	1435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
24-08	2627 Troy Ave.	Home	2990	1435
24-09	2631 Troy Ave.	Home	2970	1435
24-10	2633 Troy Ave.	Home	2950	1435
24-11	2635 Troy Ave.	Home	2920	1435
24-12	2637 Troy Ave.	Home	2900	1435
24-13	2641 Troy Ave.	Home	2870	1435
24-14	2643 Troy Ave.	Home	2840	1435
24-15	2645 Troy Ave.	Home	2810	1435
24-16	2647 Troy Ave.	Home	2770	1435
24-17	2653 Troy Ave.	Home	2740	1435
24-18	2655 Troy Ave.	Home	2710	1435
24-19	2657 Troy Ave.	Home	2680	1435
25-01	3001 26th St.	Auto parts store	3240	2290
25-02	Sacramento Ave. & RR	Empty lot	3210	2355
25-03	2628-16 Sacramento Ave.	Home	3020	2355
25-04	2632 Sacramento Ave.	Home	2950	2355

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
25-05	2634 Sacramento Ave.	Home	2920	2355
25-06	2638 Sacramento Ave.	Home	2870	2355
25-07	2640 Sacramento Ave.	Home	2850	2355
25-08	2642 Sacramento Ave.	Home	2820	2355
25-09	No address	Home	2780	2355
25-10	2661 Whipple Ave.	Parking lot	2720	2355
25-11	2661 Whipple Ave.	Business	2720	2130
25-11	2651-57 Whipple Ave.	Business	2720	2130
25-12	2645 Whipple Ave.	Business	2780	2130
25-13	2643 Whipple Ave.	Empty lot	2820	2130
25-14	2641 Whipple Ave.	Business	2850	2130
25-15	No address	Business	2880	2130
25-16	No address	Empty lot	3070	2130
25-17	3025 26th St.	Business w/ apt. upstairs	3240	2130
25-18	3017 26th St.	Auto Shop	3240	2230
26-01	No Address - Spaulding Ave.	Store	2050	435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
26-02	No Address	Home	2100	435
26-03	2751 Spaulding Ave.	Home	2130	435
26-04	2749 Spaulding Ave.	Home	2150	435
26-05	2745 Spaulding Ave.	Home	2180	435
26-06	2743 Spaulding Ave.	Home	2200	435
26-07	2741 Spaulding Ave.	Home	2230	435
26-08	2739 Spaulding Ave.	Home	2250	435
26-09	2735 Spaulding Ave.	Home	2270	435
26-10	2733 Spaulding Ave.	Home	2310	435
26-11	2731 Spaulding Ave.	Home	2330	435
26-12	2729 Spaulding Ave.	Home	2350	435
26-13	2725 Spaulding Ave.	Home	2380	435
27-01	No Address - corner Sawyer Ave.	Storage Barn	2590	785
27-02	2703 Sawyer Ave.	Home	2970	785
27-03	2707 Sawyer Ave.	Home	2550	785
27-04	2711 Sawyer Ave.	Home	2530	785

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
27-05	2713 Sawyer Ave.	Home	2510	785
27-06	2717 Sawyer Ave.	Home	2470	785
27-07	2719 Sawyer Ave.	Home	2450	785
27-08	2721 Sawyer Ave.	Home	2430	785
27-09	2723 Sawyer Ave.	Home	2360	785
27-10	No Address	Home	2330	785
27-11	2729 Sawyer Ave.	Home	2310	785
27-12	2731 Sawyer Ave.	Home	2270	785
27-13	2733 Sawyer Ave.	Home	2260	785
27-14	2735 Sawyer Ave.	Home	2240	785
27-15	2737 Sawyer Ave.	Home	2200	785
27-16	2739 Sawyer Ave.	Home	2180	785
27-17	2743 Sawyer Ave.	Home	2150	785
27-18	2745 Sawyer Ave.	Home	2130	785
27-19	2747 Sawyer Ave.	Home	2100	785
27-20	No Address	Parking lot	2070	785

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
28-01	2702 Troy Ave.	Home	2590	1335
28-02	No address	Home	2560	1335
28-03	2708 Troy Ave.	Home	2550	1335
28-04	2710 Troy Ave.	Home	2530	1335
28-05	2712 Troy Ave.	Home	2510	1335
28-06	2714 Troy Ave.	Home	2470	1335
28-07	2716 Troy Ave.	Home	2450	1335
28-08	2720 Troy Ave.	Home	2430	1335
28-09	2722 Troy Ave.	Home	2410	1335
28-10	2724 Troy Ave.	Home	2390	1335
28-11	2726 Troy Ave.	Home	2360	1335
28-12	No address	Empty lot	2340	1335
28-13	2732 Troy Ave.	Home	2320	1335
28-14	2734 Troy Ave.	Home	2300	1335
28-15	2736 Troy Ave.	Home	2280	1335
28-16	2738 Troy Ave.	Home	2250	1335
28-17	2740 Troy Ave.	Home	2230	1335

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
28-18	2742 Troy Ave.	Home	2190	1335
28-19	No address	Rokaitis Industries	2100	1335
28-20	2759 Kedzie Ave.	Rinn-Scott	2060	1105
28-21	2741 Kedzie Ave.	Home	2200	1105
28-22	2739 Kedzie Ave.	Home	2250	1105
28-23	2737 Kedzie Ave.	Home	2280	1105
28-24	2735 Kedzie Ave.	Home	2300	1105
28-25	2731 Kedzie Ave.	Home	2320	1105
28-26	No address	Home	2350	1105
28-27	No address	Home	2400	1105
28-28	2721 Kedzie Ave.	Home	2420	1105
28-29	No address	Home	2450	1105
28-30	No address	Food Business	2540	1105
29-01	2703 Troy Ave.	Home	2590	1435
29-02	2705 Troy Ave.	Home	2570	1435
29-03	2709 Troy Ave.	Home	2550	1435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
29-04	2711 Troy Ave.	Home	2530	1435
29-05	2713 Troy Ave.	Home	2510	1435
29-06	2715 Troy Ave.	Home	2490	1435
29-07	2717 Troy Ave.	Business	2430	1435
29-08	No address	Home	2270	1435

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
30-01	2702 Sacramento Ave.	Home	2610	2355
30-02	2704 Sacramento Ave.	Home	2560	2355
30-03	2708 Sacramento Ave.	Home	2540	2355
30-04	2710 Sacramento Ave.	Home	2530	2355
30-05	2712 Sacramento Ave.	Home	2510	2355
30-06	2714 Sacramento Ave.	Home	2470	2355
30-07	2716 Sacramento Ave.	Home	2450	2355
30-08	2720 Sacramento Ave.	Home	2430	2355
30-09	No address	Home	2400	2355
30-10	No address	Home	2380	2355
30-11	No address	Lot w/ trucks	2340	2355
30-12	2732 Sacramento Ave.	Home	2290	2355
30-13	No address	Home	2260	2355
30-14	2738 Sacramento Ave.	Home	2240	2355
30-15	2740 Sacramento Ave.	Home	2200	2355
30-16	2742 Sacramento Ave.	Home	2170	2355
30-17	2744 Sacramento Ave.	Home	2140	2355

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
30-18	No address	Home	2120	2355
30-19	2750 Sacramento Ave.	Home	2090	2355
30-20	2756 Sacramento Ave.	Bar	2040	2355
30-21	2757 Whipple Ave.	Home	2040	2130
30-22	2755 Whipple Ave.	Home	2080	2130
30-23	2753 Whipple Ave.	Home	2090	2130
30-24	No address	Lot with trailer	2140	2130
30-25	2745 Whipple Ave.	Home	2180	2130
30-26	2741 Whipple Ave.	Home	2220	2130
30-27	No address	Lot w/ Ameritech cell tower	2240	2130
30-28	2733 Whipple Ave.	Home	2280	2130
30-29	2731 Whipple Ave.	Home	2310	2130
30-30	2729 Whipple Ave.	Home	2330	2130
30-31	2727 Whipple Ave.	Home	2350	2130
30-32	No address	Home	2380	2130
30-33	No address	Home	2400	2130
30-34	No address	Home	2430	2130

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
30-35	No address	Home	2450	2130
30-36	No address	Home	2470	2130
30-37	2711 Whipple Ave.	Home	2530	2130
30-38	No address	Empty lot	2540	2130
30-39	2705 Whipple Ave.	Home	2560	2130
30-40	2703 Whipple Ave.	Home	2610	2130
30-41	2701 Whipple Ave.	Home	2630	2130
30-42	27th St. & alley	Home	2630	2260
31-01	2857 Spaulding Ave.	Home	1410	435
31-02	2853 Spaulding Ave.	Home	1440	435
31-03	2851 Spaulding Ave.	Home	1460	435
31-04	2849 Spaulding Ave.	Home	1480	435
31-05	2847 Spaulding Ave.	Home	1510	435
31-06	2843 Spaulding Ave.	Home	1530	435
31-07	2841 Spaulding Ave.	Home	1560	435
31-08	2839 Spaulding Ave.	Home	1590	435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
31-09	2837 Spaulding Ave.	Home	1600	435
31-10	2833 Spaulding Ave.	Home	1630	435
31-11	2831 Spaulding Ave.	Home	1660	435
31-12	2829 Spaulding Ave.	Home	1670	435
31-13	2827 Spaulding Ave.	Home	1710	435
31-14	2823 Spaulding Ave.	Home	1730	435
31-15	2821 Spaulding Ave.	Home	1760	435
31-16	2819 Spaulding Ave.	Home	1770	435
31-17	2819 Spaulding Ave.	Home	1810	435
31-18	2813 Spaulding Ave.	Home	1840	435
31-19	2809 Spaulding Ave.	Home	1900	435
31-20	2807 Spaulding Ave.	Home	1910	435
31-21	2803 Spaulding Ave.	Home	1920	435
31-22	2800 Sawyer Ave.	Home	1950	665
31-23	2802 Sawyer Ave.	Home	1920	665
31-24	2808 Sawyer Ave.	Home	1890	665
31-25	2810 Sawyer Ave.	Home	1860	665

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
31-26	2812 Sawyer Ave.	Home	1840	665
31-27	2814 Sawyer Ave.	Home	1810	665
31-28	2816 Sawyer Ave.	Home	1780	665
31-29	2820 Sawyer Ave.	Home	1760	665
31-30	2822 Sawyer Ave.	Home	1730	665
31-31	2824 Sawyer Ave.	Home	1710	665
31-32	No Address	Home	1690	665
31-33	No Address	Home	1660	665
31-34	2832 Sawyer Ave.	Home	1630	665
31-35	2838 Sawyer Ave.	Home	1590	665
31-36	2840 Sawyer Ave.	Home	1560	665
31-37	2842 Sawyer Ave.	Home	1530	665
31-38	No Address	Home	1510	665
31-39	2848 Sawyer Ave.	Home	1480	665
31-40	No Address	Fenced Lot	1410	665
32-01	2801 Sawyer Ave.	Home	1930	785

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
32-02	2809 Sawyer Ave.	Home	1890	785
32-03	2811 Sawyer Ave.	Home	1860	785
32-04	No Address	Home	1840	785
32-05	2817 Sawyer Ave.	Home	1810	785
32-06	2819 Sawyer Ave.	Home	1780	785
32-07	2821 Sawyer Ave.	Home	1760	785
32-08	2823 Sawyer Ave.	Home	1730	785
32-09	2827 Sawyer Ave.	Home	1710	785
32-10	2829 Sawyer Ave.	Home	1670	785
32-11	2831 Sawyer Ave.	Home	1660	785
32-12	No Address	Empty Lot	1510	785
33-01	No Address - Troy Ave.	Empty lot with RR	1860	1335
33-02	No Address	Auto Repair	1720	1335
33-03	2834 Troy Ave.	Home	1630	1335
33-04	2836 Troy Ave.	Home	1610	1335
33-05	No Address	Empty Lot	1590	1335

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
33-06	2842 Troy Ave.	Home	1530	1335
33-07	2846 Troy Ave.	Home	1510	1335
33-08	2848 Troy Ave.	Home	1480	1335
33-09	2850 Troy Ave.	Home	1450	1335
33-10	2852 Troy Ave.	Home	1420	1335
33-11	No Address	Large Fenced Lot	1350	1335
34-01	2807 Troy Ave.	Home	1910	1435
34-02	2809 Troy Ave.	Home	1890	1435
34-03	2811 Troy Ave.	Home	1870	1435
34-04	2813 Troy Ave.	Home	1850	1435
34-05	2815 Troy Ave.	Home	1820	1435
34-06	No Address	Home	1790	1435
34-07	2821 Troy Ave.	Home	1770	1435
34-08	2823 Troy Ave.	Home	1750	1435
34-09	2825 Troy Ave.	Home	1720	1435
34-10	No Address	Empty Lot	1690	1435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
34-11	No Address	Home	1630	1435
34-12	2837 Troy Ave.	Home	1600	1435
34-13	2839 Troy Ave.	Home	1580	1435
34-14	2841 Troy Ave.	Home	1560	1435
34-15	2843 Troy Ave.	Home	1530	1435
34-16	No Address	Empty Lot	1450	1435
38-01	No address Troy Ave.	Home	1270	1435
38-02	No address Troy Ave.	Home	1250	1435
38-03	3009 Troy Ave.	Home	1220	1435
38-04	3011 Troy Ave.	Home	1200	1435
38-05	3013 Troy Ave.	Home	1170	1435
38-06	3015 Troy Ave.	Home	1140	1435
38-07	3019 Troy Ave.	Home	1120	1435
38-08	3021 Troy Ave.	Home	1100	1435
38-09	3023 Troy Ave.	Home	1080	1435
38-10	3025 Troy Ave.	Home	1050	1435

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
38-11	3029 Troy Ave.	Home	1030	1435
38-12	3031 Troy Ave.	Home	1000	1435
38-13	3033 Troy Ave.	Home	980	1435
38-14	3035 Troy Ave.	Home	950	1435
38-15	3037 Troy Ave.	Home	930	1435
38-16	3041 Troy Ave.	Home	900	1435
38-17	3043 Troy Ave.	Home	860	1435
38-18	3045 Troy Ave.	Empty lot	850	1435
38-19	3047 Troy Ave.	Home	820	1435
38-20	3051 Troy Ave.	Home	800	1435
38-21	No address	Empty lot	770	1435
38-22	3004 Albany Ave.	Home	1250	1680
38-23	3008 Albany Ave.	Home	1220	1680
38-24	3010 Albany Ave.	Home	1200	1680
38-25	3012 Albany Ave.	Home	1170	1680
38-26	No address	Home	1140	1680
38-27	No address	Home	1120	1680

Shaded rows indicate previously sampled homes.

TABLE A-1
RESIDENTIAL SURVEY AND PREVIOUSLY SAMPLED PROPERTIES
2800 SOUTH SACRAMENTO AVENUE
CHICAGO, ILLINOIS

MAP NUMBER	ADDRESS	DESCRIPTION	Northing	Easting
38-28	No address	Empty lot	1100	1680
38-29	No address	Home	1080	1680
38-30	3024 Albany Ave.	Home	1050	1680
38-31	No address	Home	1030	1680
38-32	3030 Albany Ave.	Home	1000	1680
38-33	3032 Albany Ave.	Business	980	1680
38-34	3034 Albany Ave.	Home	950	1680
38-35	3036 Albany Ave.	Home	930	1680
38-36	3040 Albany Ave.	Home	900	1680
38-37	No address	Home	860	1680
38-38	Lot	Lot	770	1680

Shaded rows indicate previously sampled homes.

24th STREET

NOT TO SCALE



SAWYER AVENUE

NOT INCLUDED

NOT INCLUDED

1-12

1-11

1-10

1-09

1-08

1-07

1-06

1-05

1-04

1-03

1-02

KEDZIE AVENUE

1-13

1-01

25th STREET

MAP #1

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



24th STREET

NOT TO SCALE



KEDZIE AVENUE

TROY AVENUE

BUSINESS		BUSINESS	
		2-19	
		2-20	
2-17		2-21	
2-16		2-22	
2-15		2-23	
2-14		2-24	
2-13		2-25	
2-12		2-26	
2-11		2-27	
2-10		2-28	
2-09		2-29	
2-08		2-30	
2-07		2-31	
2-06		2-32	
2-05		2-33	
2-04		2-34	
2-03	2-01	2-18	2-35
2-02			

25th STREET

MAP #2

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



24th STREET

NOT TO SCALE



TROY AVENUE

3-18	3-01						
3-19							
3-20							
3-21							
3-22							
3-23							
3-24							
3-25							
3-26							
3-27							
3-28	3-02						
3-29	3-03						
3-30	3-04						
3-31	3-05						
3-32	3-06						
3-33	3-07						
3-34	3-08						
3-17	3-09						
3-16	3-10						
3-15							
3-14							
3-13							
3-12							
3-11							

ALBANY AVENUE

25th STREET

MAP #3

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



24th STREET

ALBANY AVENUE

4-22	4-21
4-23	
4-24	4-20
4-25	4-19
4-26	4-18
4-27	4-17
4-28	4-16
4-29	4-15
4-30	4-14
4-31	
4-32	4-13
4-33	4-12
4-34	4-11
4-35	4-10
4-36	4-09
4-37	4-08
4-38	4-07
4-39	4-06
4-40	4-05
4-41	4-04
4-42	4-03
4-43	4-02
4-44	4-01

WHIPPLE AVENUE

25th STREET

MAP #4

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



24th STREET

NOT TO SCALE



WHIPPLE AVENUE

5-46		5-01
5-45		5-02
5-44		5-03
5-43		5-04
5-42		5-05
5-41		5-06
5-40		5-07
5-39		5-08
5-38		5-09
5-37		5-10
5-36		5-11
5-35		5-12
5-34		5-13
5-33		5-14
5-32		5-15
5-31		5-16
5-30		5-17
5-29		5-18
5-28		5-19
5-27		5-20
5-26		5-21
5-25		
5-24	5-23	5-22

SACRAMENTO AVENUE

25th STREET

MAP #5

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



24th STREET

NOT TO SCALE



SACRAMENTO AVENUE

SCHOOL

25th STREET

MAP #6

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL

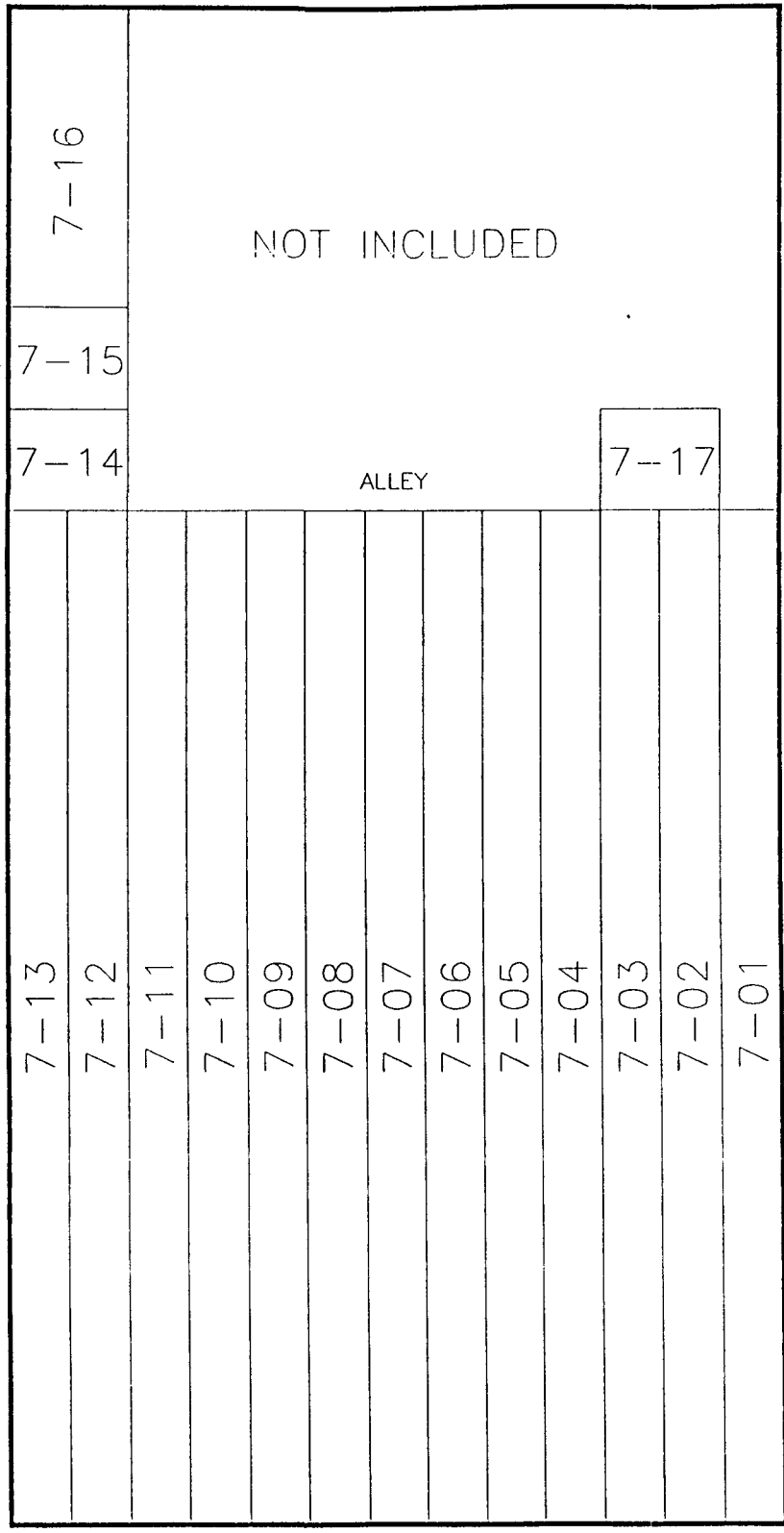


NOT TO SCALE



MARSHALL

SCHOOL



ALLEY

FRANCISCO AVENUE

25th STREET

MAP #7

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



MARSHALL STREET

NOT INCLUDED

UNNAMED ALLEY

8-17
8-16
8-15
8-14
8-13
8-12
8-11
8-10
8-09
8-08
8-07
8-06
8-05
8-04
8-03
8-01 & 02

FRANCISCO AVENUE

25th STREET

MAP #8

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



25th STREET

NOT TO SCALE



CHRISTINA AVENUE

9-20	9-19
9-21	9-18
	9-17
9-22	9-16
9-23	9-15
9-24	9-14
9-25	9-13
	9-12
9-26	9-11
9-27	9-10
9-28	9-09
9-29	9-08
9-30	9-07
9-31	9-06
9-32	9-05
9-33	9-04
9-34	
9-35	9-03
9-36	9-02
9-37	9-01
9-38	

SPAULDING AVENUE

26th STREET

MAP #9

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



25th STREET

SPAULDING AVENUE

SAWYER AVENUE

10-46	10-01	10-02	
10-45		10-03	
10-44	10-04		
10-43	10-05		
10-42	10-06		
10-41	10-07		
10-40	10-08		
10-39	10-09		
10-38	10-10		
10-37	10-11		
10-36	10-12		
10-35	10-13		
10-34	10-14		
10-33	10-15		
10-32	10-16		
10-31	10-17		
10-30	10-18		
10-29	10-19		
10-28	10-20		
10-27	10-21		
	10-22		
10-26	10-25	10-24	10-23

26th STREET

MAP #10

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



25th STREET

SAWYER AVENUE	11-04	11-22	
	11-05		
	11-06	11-23	
	11-07	11-24	
	11-08	11-25	
	11-09	11-26	
	11-10	11-27	
	11-11	11-28	
	11-12		
	11-13		
	11-14		
	11-15		
	11-16	11-29	
	11-17		
	11-18		
	11-19	11-30	
	11-20		
	11-21	11-31	
	11-03		
		11-01	

KEDZIE AVENUE

26th STREET

MAP #11

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



25th STREET

NOT TO SCALE



KEDZIE AVENUE

12-13	12-14	12-15
12-12	12-16	
12-11	12-17	
	12-18	
12-10	12-19	
12-09	12-20	
12-08	12-21	
	12-22	
12-07	12-23	
12-06	12-24	
12-05	12-25	
12-04	12-26	
12-03	12-27	
	12-28	
12-02	12-29	
	12-30	
12-01	12-31	

TROY AVENUE

26th STREET

MAP #12

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



25th STREET

NOT TO SCALE



TROY AVENUE	13-38	13-39	13-40	13-41	13-42	13-43	13-44	13-45	13-46	13-01
	13-37					13-02				
	13-36					13-03				
	13-35					13-04				
	13-34					13-05				
	13-33					13-06				
	13-32					13-07				
	13-31					13-08				
	13-30					13-09				
	13-29					13-10				
	13-28					13-11				
	13-27					13-12				
	13-26					13-13				
	13-25					13-14				
	13-24					13-15				
	13-23					13-16				
	13-22					13-17				
						13-18				
	13-21					13-20	13-19			

ALBANY AVENUE

26th STREET

MAP #13

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



25th STREET

NOT TO SCALE



ALBANY AVENUE

WHIPPLE AVENUE

14-18			14-19			
14-17			14-20			
14-16			14-21			
14-15			14-22			
14-14			14-23			
14-13			14-24			
14-12			14-25			
14-11			14-26			
14-10			14-27			
14-09						
14-08			14-28			
14-07						
14-06			14-29			
14-05			14-30			
14-04			14-31			
14-03			14-32			
14-02			14-33			
14-01	14-39	14-38	14-37	14-36	14-35	14-34

26th STREET

MAP #14

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



25th STREET				
15-19		15-18	15-17	
15-20			15-16	
15-21		15-15		
15-22		15-14		
15-23		15-13		
15-24		15-12		
15-25		15-11		
15-26		15-10		
15-27		15-09		
15-28		15-08		
15-29		15-07		
15-30		15-06		
15-31		15-05		
15-32		15-04		
15-33		15-03		
15-34		15-02		
15-35		15-01		
15-36				
15-37	15-38	15-41	15-39	15-40
26th STREET				

MAP #15

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



FRANCISCO AVENUE

16-45	16-45	16-21
16-44		16-20
16-43		16-19
16-41		16-18
16-40		16-17
16-39		16-16
16-38		16-15
		16-14
16-37		16-13
16-36		16-12
16-35		16-11
16-34		16-10
16-33		16-09
		16-08
16-32		16-07
16-31		16-06
16-30		16-05
16-29		16-04
16-28		16-03
16-27	16-02	
16-26		
16-25		
16-24		
16-23	16-22	16-01

25th STREET

25th PLACE

SACRAMENTO AVENUE

MAP #16

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



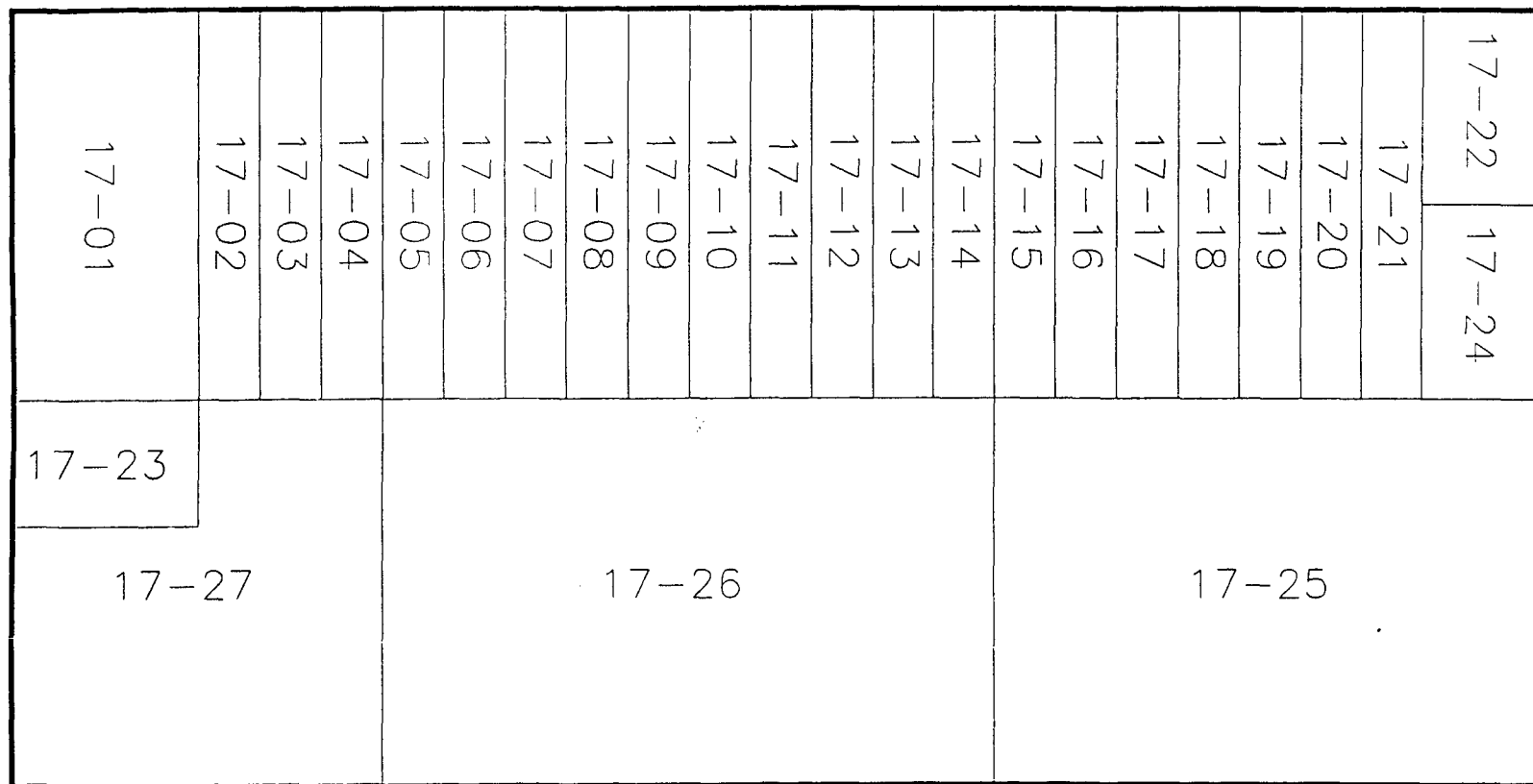
PARSONS ENGINEERING SCIENCE, INC.

NOT TO SCALE



FRANCISCO AVENUE

25th PLACE



SACRAMENTO AVENUE

26th STREET

MAP #17

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



UNNAMED ALLEY

25th STREET			
18-53	18-35	PARKING	CAR WASH
18-52	18-34		
18-51	18-33		
18-50	18-32		
18-49	18-31		
18-48	18-30		
18-47	18-29		
	18-28		
18-46	18-27		
18-45	18-26		
18-44	18-25		
18-43	18-24		
18-42	18-23		
18-41	18-22		
18-40	18-21		
18-39	18-20	PARKING	CAR WASH
18-38			
18-37	18-19		
18-36			
25th PLACE			
	18-17	PARKING	CAR WASH
	18-16		
	18-15		
	18-14		
	18-13		
	18-12		
	18-11		
	18-10		
	18-09		
	18-08		
	18-07		
	18-06		
	18-05		
	18-04		
	18-03		
	18-02		
	18-01		

FRANCISCO AVENUE

MAP #18

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



PARSONS ENGINEERING SCIENCE, INC.

NOT TO SCALE



25th STREET

19-06

19-07

19-08

19-09

19-10

19-11

19-12

19-13

19-14

25th PLACE

19-01

19-02

19-03

PARKING

19-05

19-04

26th STREET

UNNAMED ALLEY

CALIFORNIA AVENUE

MAP #19

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



26th STREET

NOT TO SCALE



CHRISTINA AVENUE

NOT INCLUDED

SPAULDING AVENUE

27th STREET

MAP #20

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



26th STREET

NOT TO SCALE



21-01

21-02

21-03

21-04

21-05

21-06

21-07

21-08

21-09

21-10

21-11

21-12

21-13

21-14

21-15

21-16

21-17

21-18

21-19

SPAULDING AVENUE

NOT INCLUDED

SAWYER AVENUE

27th STREET

MAP #21

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



26th STREET

SAWYER AVENUE

KEDZIE AVENUE

22-17	22-01
22-18	22-02
22-19	22-03
22-20	22-04
22-21	22-05
22-22	22-06
22-23	22-07
22-24	22-08
22-25	22-09
22-26	22-10
22-27	22-11
22-28	22-12
22-29	22-13
22-30	22-14
22-31	22-15
22-32	22-16
22-33	
22-34	
22-35	

27th STREET

MAP #22

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



26th STREET

NOT TO SCALE



KEDZIE AVENUE	BUSINESS		23-01	TROY AVENUE
	McDONALDS		23-02	
			23-03	
			23-04	
			23-05	
			23-06	
	23-20		23-07	
			23-08	
			23-09	
			23-10	
			23-11	
			23-12	
	23-19		23-13	
			23-14	
			23-15	
			23-16	
			23-17	
			23-18	

27th STREET

MAP #23

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



26th STREET

NOT TO SCALE



TROY AVENUE

24-01

24-02

24-03

24-04

24-05

24-06

24-07

24-08

24-09

24-10

24-11

24-12

24-13

24-14

24-15

24-16

24-17

24-18

24-19

SHOPPING MALL

WHIPPLE AVENUE

27th STREET

MAP #24

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL

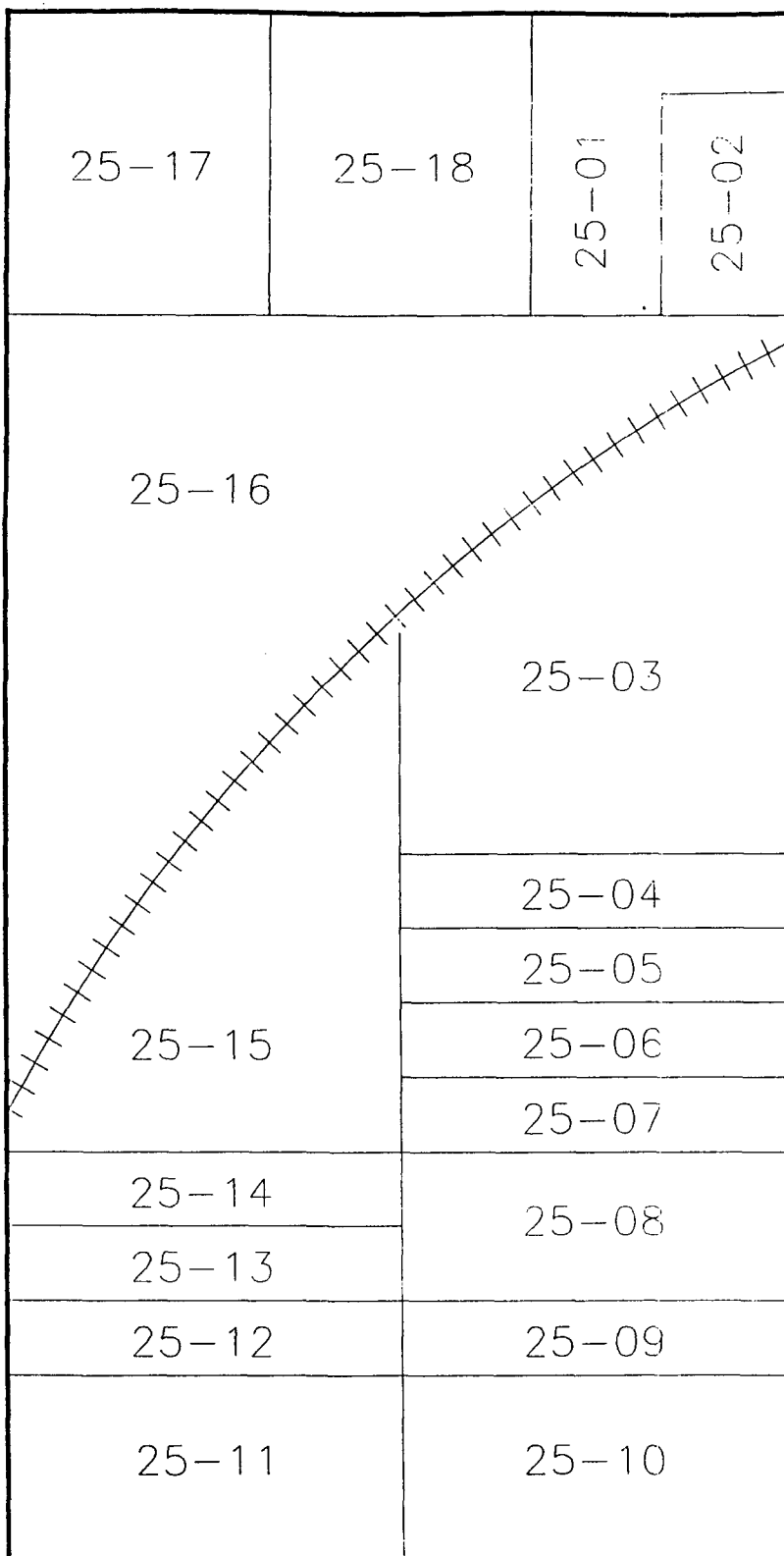


26th STREET

NOT TO SCALE



WHIPPLE AVENUE



SACRAMENTO AVENUE

27th STREET

MAP #25

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



27th STREET

NOT TO SCALE



NOT INCLUDED

SPAULDING AVENUE

26-13

26-12

26-11

26-10

26-09

26-08

26-07

26-06

26-05

26-04

26-03

26-02

26-01

SCHOOL

SAWYER AVENUE

28th STREET

MAP #26

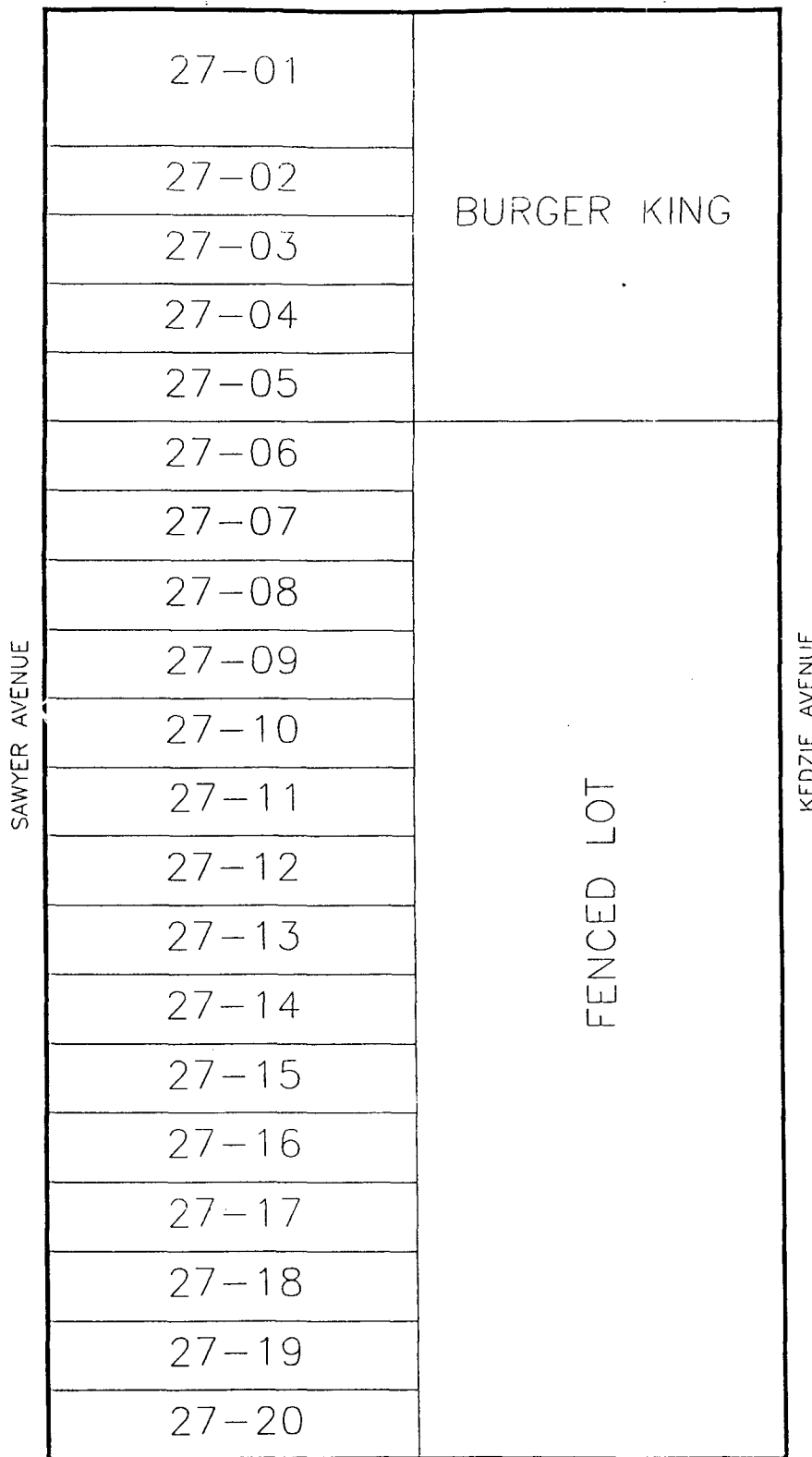
RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE



27th STREET



SAWYER AVENUE

KEDZIE AVENUE

FENCED LOT

28th STREET

MAP #27

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



27th STREET

NOT TO SCALE



KEDZIE AVENUE

28-30	28-01
	28-02
	28-03
	28-04
	28-05
	28-06
28-29	28-07
28-28	28-08
28-27	28-09
28-26	28-10
28-25	28-11
28-24	28-12
28-23	28-13
28-22	28-14
28-21	28-15
28-20	28-16
	28-17
	28-18
	28-19

TROY AVENUE

28th STREET

MAP #28

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



27th STREET

NOT TO SCALE



29-01

29-02

29-03

29-04

29-05

29-06

29-07

29-08

TROY AVENUE

SITE

MAP #29

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



27th STREET

NOT TO SCALE



WHIPPLE AVENUE

30-41	30-42
30-40	30-01
30-39	30-02
30-38	30-03
30-37	30-04
30-36	30-05
30-35	30-06
30-34	30-07
30-33	30-08
30-32	30-09
30-31	30-10
30-30	30-11
30-29	30-12
30-28	30-13
30-27	30-14
30-26	30-15
30-25	30-16
30-24	30-17
30-23	30-18
30-22	30-19
30-21	30-20

SACRAMENTO AVENUE

28th STREET

MAP #30

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



NOT TO SCALE

28th STREET



SPAULDING AVENUE

31-21	31-22
31-20	
31-19	31-23
31-18	31-24
31-17	31-25
31-16	31-26
31-15	31-27
31-14	31-28
31-13	31-29
31-12	31-30
31-11	31-31
31-10	31-32
31-09	31-33
31-08	31-34
31-07	31-35
31-06	31-36
31-05	31-37
31-04	31-38
31-03	31-39
31-02	31-40
31-01	

SAWYER AVENUE

30th STREET

MAP #31

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



28th STREET

NOT TO SCALE



SAWYER AVENUE

32-01

32-02

32-03

32-04

32-05

32-06

32-07

32-08

32-09

32-10

32-11

CARWASH / GAS STATION

KEDZIE AVENUE

32-12

FENCED LOT

30th STREET

MAP #32

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



28th STREET

NOT TO SCALE



BUSINESS

KEDZIE AVENUE

TROY AVENUE

33-01

33-02

33-03

33-04

33-05

33-06

33-07

33-08

33-09

33-10

33-11

30th STREET

MAP #33

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



28th STREET

NOT TO SCALE



TROY AVENUE

34-01	SITE
34-02	
34-03	
34-04	
34-05	
34-06	
34-07	
34-08	
34-09	
34-10	
34-11	
34-12	
34-13	
34-14	
34-15	
34-16	

SITE

30th STREET

MAP #34

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



30th STREET

NOT TO SCALE



SPAULDING AVENUE

BUSINESS

KEDZIE AVENUE

31st STREET

MAP #35 & MAP #36

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



30th STREET

NOT TO SCALE



KEDZIE AVENUE

BUSINESS

TROY AVENUE

31st STREET

MAP #37

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL



30th STREET

NOT TO SCALE



TROY AVENUE

38-01	38-22
38-02	
38-03	38-23
38-04	38-24
38-05	38-25
38-06	38-26
38-07	38-27
38-08	38-28
38-09	38-29
38-10	38-30
38-11	38-31
38-12	38-32
38-13	38-33
38-14	38-34
38-15	38-35
38-16	38-36
38-17	38-37 38-38
38-18	
38-19	
38-20	
38-21	

ALBANY AVENUE

31st STREET

MAP #38

RESIDENTIAL SURVEY
2800 SOUTH SACRAMENTO AVE. SITE
CHICAGO, IL

